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HEAT INDUCED HYPERVENTILATION AND THE PROTECTIVE MASK

Final Report

Mukul R. Banerjee
Robert W. Bullard

January 1966

US Army Edgewood Arsenal
CHEMICAL RESEARCH AND DEVELOPMENT LABORATORIES
Edgewood Arsenal, Maryland 21010

Contract DA-18-035-AMC-254(A)
Task 1C622401A09701

Department of Anatomy-Physiology
Indiana University
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FOREWORD

These tests were authorized under Task 1C622401A09701 Biological Investigation and Evaluation of Protective Equipment. The observations were made between July 1964 and June 1965.

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The authors are indebted to George Case, Steve Thomas, Richard Smith, Ralph Borysiak, Terry Shor, Richard Hening, Dave Nichols, Larry Coffey, Charles Zimmermann, George Hall, and Brian Kuchik who volunteered as test subjects. The authors are also indebted to Dr. W. van Beaumont, John Smith, James Wertz, and James McGrath. The authors wish to particularly thank Dr. F. N. Craig of the Applied Physiology Branch, US Army Edgewood Arsenal Chemical Research and Development Laboratories, for his interest and help in this project. A debt of gratitude is also owed Mr. John Budemeyer and Dr. E. G. Cummings also of the Laboratories.

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DIGEST

The impairment in the performance of men wearing the protective clothing was determined by measuring the respiratory and thermal responses of the subjects walking on a treadmill at 3 mph, zero grade at 21° and 40°C and 10 mm Hg vapor pressure. The major cause of the discomfort was found to be thermo-regulatory in nature.

The conclusions are as follows:

The M6 hood adds considerably to the heat stress of the subjects. Similarly, as compared to subjects with the heads kept uncovered, wearing the M17 protective mask also results in greater discomfort in the heat. The impairment in performance of men wearing the protective mask and hood is also evident when the rest of the body except for the loins is left bare and thus exposed to the environment for evaporative heat loss. However, at neutral ambient temperature the working ability of the subjects did not seem to be affected by wearing the entire set of the protective clothing, including the mask and hood.

Since a high body temperature seems to be essential for a rise in ventilation, further experiments need to be carried out to determine whether in subjects working in the heat, wearing mask and hood after the attainment of a rectal temperature of 39°C or more results in hyperventilation. The subjects in this series, however, all reported severe thermal discomfort prior to the attainment of any hyperventilation with only one exception. The attainment of a heat storage index above a tolerable level appeared to be the critical factor.

Another extension of this problem will be to conduct some well designed basic experiments to investigate whether an increase in skin temperature of the head area can be a specific cause of rise in body temperatures.

CONTENTS

LIST OF TABLES

LIST OF APPENDIX TABLES

LIST OF FIGURES

HEAT INDUCED HYPERVENTILATION
AND THE PROTECTIVE MASK

I. INTRODUCTION.

There are several factors which may account for discomfort or impairment in men wearing the protective mask while working in the heat. Heat-induced hyperventilation has been described in connection with dehydration (1), with high wet-bulb temperatures (18) and with a steady state of prolonged work (24). Wearing of the mask may augment the hyperventilation because of either the respiratory influences or thermal influences and this in turn may lead to impairment.

The present study was conducted in different phases. In the first phase, constituting the major part of this project, an attempt was made to evaluate the influence of wearing the M17 Mask and the Mask plus M6 hood during work in the heat on physiological performance of the subjects. The other phases of the study were designed on the basis of the results of the first phase depending on whether the respiratory or thermal influences were important in the impairment.

II. FIRST PHASE

A. PROCEDURE.

The first series of experiments were conducted on eleven healthy male college students. Their physiological characteristics are listed in Table 1. List 1 includes the clothing and associated equipment worn by the subject. The clothing was unimpregnated. The use of short underwear makes the heat load of assembly more comparable with that of the 1-1/2 layer outfit than with that of the 2 layer outfit. The hood was unpressurized since the expired air was collected, as will be described below. The respiratory characteristics of the mask were unaltered except for the slight additional expiratory resistance of the tubing connecting the mask with the gasometer.

Before the collection of data was begun, the subjects had 5 days of training at a dry bulb temperature (DBT) of 40°C and a wet bulb temperature (WBT) of 21.5°C.

The original protocol called for walks a 115°F. However, the initial experiments clearly demonstrated that with clothing and with mask and hood such thermal conditions would not be tolerated except for brief periods (Table 2). Reduction of the temperature to a DBT of 40°C and a WBT of 21.5°C appeared to be the appropriate way to permit at least 4 hours of walking with mask and hood in most subjects.

The daily training consisted of walk on the treadmill at 3 mph, zero grade for 45 minutes followed by a rest for 15 minutes. This schedule of walking and resting was repeated for 4 hours a day. During the first three days of training, the clothing assembly in List 1, excepting the M6 hood was worn by the subject and during the last two days the list of clothing worn by the subject also included the hood. The jacket was tucked into the trousers and the trousers tucked into combat boots. The sleeves were rolled under the gloves. The hood covered the head, neck, and shoulders, and was fastened with straps under the arms. Each day freshly laundered clothes were worn by the subjects and a pair of dry filters were inserted into the mask.

Experimental data were collected on 7 different days from each subject under the test conditions listed in Table 3.

1. Measurements.

Rectal temperature at a depth of 10 cm. was obtained with a copper constantan thermocouple mounted in a catheter. For measuring the skin temperatures, thermocouples were held against the skin with elastic tubing at the front and back of the chest, back of the waist and above the knee. Minneapolis-Honeywell jacks and plugs with copper and constantan elements were used to connect the wires from the subject with the wires leading to a Brown Electronic 16 point recorder. A thermocouple was

Table 1

Physical Characteristics of Subjects

Subject	Height (cm)	Weight (Kg)	Surface area (Sq. m.)	Age (yr.)
G. C.	184	75	1.95	25
S. T.	177	71	1.87	23
R. S.	172	66	1.77	24
R. B.	180	70	1.87	24
T. S.	174	77	1.92	26
R. H.	169	55	1.62	24
D. N.	184	85	2.09	24
L. C.	180	80	2.01	24
C. Z.	174	81	1.96	26
G. H.	178	77	1.95	19
B. K.	186	99	2.25	23

List 1

Clothing Assembly

Jacket, cotton

Trousers, cotton

T-shirt, cotton

Underwear, short, cotton

Gloves, cotton special for impregnation

Socks, wool

Mask, protective, M17

Hood, protective, M6

Combat boots

Thermocouple supports, five

Electrode supports, two

Rectal thermocouple catheter

Table 2

Responses during Early Termination of the Assigned Walk at 45.0 and 43.5°C

DBT (°C)	Subject	Time (hr)	Tr (°C)	Remarks
45.0	R.H.	3.0	39.7	Walked without gloves, mask and hood on.
45.0	R.H.	3.0	39.4	Walked without mask and hood on.
45.0	R.H.	1.0 2.0	39.0 40.0	Walked without hood on.
45.0	C.Z.	3.0	39.4	Mask and hood taken off during early part of work. Drank water twice.
45.0	R.S.	2.8	39.4	Walked without gloves, mask and hood on.
45.0	R.S.	1.8	39.3	Walked with hood on. Breathing difficulty and loss of control of movement reported.
45.0	B.K.	1.0 2.0 3.0	39.1 39.4 40.0	Walked without wearing the hood. Felt sleepy. Drank water.
43.5	B.K.	3.5	39.3	Walked without hood on.
43.5	R.S.	1.8	39.1	Walked with hood on. Stomach ache, headache, trembling of legs and difficulty in breathing reported.
43.5	J.D.	2.8	39.3	Walked without wearing the hood. Took mask & gloves off at the end of 1 hr walk.
43.5	M.S.	2.0	39.4	Walked without hood on.

Table 3

Description of Experimental Conditions

Experiment #	Description	Code
1	Dry bulb temperature 40°C, wet bulb 21.5°C. Subjects wearing fatigues, T-shirt, gloves, woolen socks, combat boots, M17 mask and M6 hood.	HH
2	As above, minus the hood	HM
3	As above, minus the mask	HB
4	Dry bulb 21°C, wet bulb 15°C; otherwise, same as experiment #1	CH
5	Same as above, minus the hood	CM
6	Same as above, minus the mask	CB
7	Same as experiment #1 minus the fatigues, T-shirt and gloves. Boots replaced by gym shoes and woolen socks by short cotton socks.	HN

also fixed on the forehead of the subject. The thermocouple junction for measuring the skin temperature was placed in a soft plastic screen. The screen was attached to one surface of a hard plastic ring which was 0.3 cm in thickness and had an internal diameter of 1.2 cm. The ring was connected to an elastic band for fastening to a particular area of the skin.

For measuring the skin temperature of the forehead the elastic band containing the thermocouple was tied to the lower edge of the forehead. The upper edge of the M17 Mask, on the otherhand, was in contact with the forehead just below the hair line. Thus the sensing element on one side was in contact with the forehead skin, and on its other side was exposed to air entrapped in the mask.

Integrated heart rate was monitored by recording the electrocardiogram on an Offner system and with a Phipps and Bird Cardiotachometer. The electrodes were held against the chest with elastic belts.

The M17 Mask was modified to permit collection of expired air by removing the Voicemitter-outlet valve cover and forcing a tight fitting copper tube into the outlet valve seat. The copper tube was connected to respiratory tubing which led to a 170 liter gasometer. A small pump continuously sampled the expired air as it entered the gasometer. These samples were analyzed for CO_2 (with the Beckman LBI analyzer) and O_2 (with a Chemtronics transducer). A small metal tubing with holes drilled in it was fitted to the nose-cup of the mask in order to monitor pressure in the nose chamber of the protective mask and to record the respiratory frequency of the subject.

The above measurements were taken at 20 minute intervals. During each hour of the experiment these were recorded twice during the walk and once during the rest period.

The subjects were weighed nude to within 5 grams on a Buffalo platform scale before and after the day's work. They were also weighed completely clothed before and after the walk, during every hour in each rest period while reclining on a chair attached to a platform scale.

2. Statistical Analyses.

The experimental data obtained during the walk have been analyzed separately from those obtained during the rest. The data were subjected to simple correlation and regression analyses. Statistical significance of

the differences in mean values of physiological responses in different experiments was determined by 't' tests. This was done because the number of experiments under hot conditions was not the same as those under cold conditions. Nine experiments under hot conditions were incomplete due to the failure by the subjects to finish the 4-hour walk. In addition, there was occasional missing of data due to the technical difficulties. Therefore, the data in each experiment were initially averaged by time over all the subjects. These average values are plotted in Figures 1 through 7.

B. RESULTS.

The overall average values and standard deviations of the physiological responses obtained under different experimental conditions are listed in Table 4. The mean values of the responses obtained during the walk periods and those obtained during the rest periods are shown separately in Tables 5 and 6 respectively. The change in these responses with respect to time is shown in Figures 1 through 7. The values in 0 minute represent pre-walk data and those in 240 minutes represent recovery data. Besides, the data in 60, 120, and 180 minutes were also obtained while the subjects were resting. The best fitting relationships describing the rate of change in physiological responses were obtained by the method of least squares and are given in Table 7 for the walk data and in Table 8 for the rest data. 't' tests of the above data are presented in Appendix Tables IA through IE. The parameters which failed to show any significant 't' value were excluded from the tables.

1. Body Temperatures: It will be apparent from the above tables that there was a general tendency for an increased rate of body heating in the experiments with hood under hot conditions (DBT 40°C).

(a) Forehead Skin Temperature --- The greatest measurable difference appears to be in the forehead skin temperature (Tf) which was averaging 1.4°C higher in experiments in the heat with both mask and hood on (HH) than in experiments with mask only (HM). The difference in T_f between the HH experiments and the ones where the body was naked except for the areas covered by the mask, hood and shorts (HN) was 0.6°C. Even under cold conditions (DBT 21°C) the T_f was highest in experiments with mask and hood (CH). The difference in T_f between CH experiments and those with mask only (CM) was 1.2°C. When the T_f data were analyzed separately for the walk and rest periods (Tables 5 and 6), the results were essentially

Table 4

Mean Values (walk and rest data combined)

Exp. #	Forehead Temp(°C)	Rectal Temp(°C)	Skin Temp(°C)	Mean Body Temp(°C)	Heart rate (beats/min)	Resp. rate (per min)	Min Volume (liters)
1	37.31 ±.44	38.31 ±.44	36.63 ±.28	37.81 ±.38	132 ±16	23 ±3	18.30 ±7.31
2	35.92 ±.57	38.10 ±.38	36.44 ±.33	37.68 ±.50	127 ±15	23 ±4	17.73 ±7.07
3	35.19 ±.33	38.05 ±.29	36.28 ±.19	37.51 ±.26	120 ±13	20 ±2	18.36 ±6.91
4	33.65 ±.24	37.65 ±.19	33.38 ±.21	36.28 ±.24	106 ±18	23 ±4	16.42 ±6.88
5	32.43 ±.35	37.75 ±.10	33.53 ±.23	36.48 ±.10	103 ±18	23 ±3	16.35 ±7.05
6	32.17 ±.17	37.62 ±.10	33.36 ±.30	36.35 ±.10	106 ±22	21 ±3	17.97 ±8.01
7	36.74 ±.35	37.99 ±.33	36.03 ±.34	37.40 ±.32	121 ±19	23 ±4	15.46 ±6.17

Table 4 (contd.)

Mean Values (walk and rest periods combined)

Exp. #	pCO_2 (mm Hg)	Mask Pressure (cm H_2O)	Nude wt loss (Kg).	% Nude wt loss	Clothed wt loss (Kg)	Gain in clothes wt (Kg)	Oxygen Consumption (L/min)
1	29.50 ±2.42	3.3 ±0.9	3.33 ±.77	4.38 ±.79	2.50 ±.53	0.56 ±.36	—
2	29.15 ±2.74	3.3 ±0.9	3.05 ±.69	3.97 ±.77	2.50 ±.41	0.27 ±.20	—
3	28.18 ±3.69	3.0 ±.13	2.76 ±.43	3.56 ±.42	2.23 ±.40	0.18 ±.12	—
4	29.85 ±2.28	2.5 ±0.9	1.38 ±.27	1.82 ±.33	1.04 ±.18	0.14 ±.07	0.68
5	28.46 ±3.99	2.8 ±0.9	1.23 ±.27	1.61 ±.24	1.03 ±.25	0.14 ±.04	0.72
6	27.33 ±3.15	2.5 ±0.8	1.18 ±.21	1.56 ±.16	1.00 ±.17	0.12 ±.05	0.86
7	28.71 ±2.28	2.7 ±0.9	2.53 ±.77	3.22 ±.48	2.40 ±.23	—	—

Table 5

Mean Values (walk data only)

Expt. #	Forehead temp(°C)	Rectal temp(°C)	Skin temp(°C)	Body temp(°C)	Heart rate (beats/min)
1	37.32 ±.51	38.33 ±.51	36.54 ±.28	37.80 ±.44	141 ±8
2	35.75 ±.52	38.11 ±.44	36.43 ±.36	37.71 ±.58	136 ±6
3	35.10 ±.28	38.10 ±.36	36.24 ±.18	37.53 ±.31	127 ±8
4	33.57 ±.22	37.72 ±.14	33.37 ±.22	36.43 ±.13	118 ±3
5	32.22 ±.18	37.79 ±.12	33.45 ±.20	36.49 ±.12	117 ±3
6	32.09 ±.19	37.65 ±.13	33.24 ±.25	36.33 ±.10	114 ±3
7	36.73 ±.38	38.04 ±.38	35.94 ±.28	37.41 ±.35	127 ±9

Table 5 (contd.)

Mean Values (walk data only)

Expt. #	Resp. rate (per min)	Min Volume (liters)	pCO_2 (mm Hg)	Mask Pressure (cm H_2O)
1	25 ±1	23.94 ±1.85	30.95 ±1.14	3.9 ±0.2
2	26 ±2	22.85 ±0.74	30.86 ±0.96	4.0 ±0.2
3	21 ±1	23.25 ±0.85	30.65 ±0.74	4.0 ±0.2
4	25 ±1	21.31 ±0.68	31.28 ±0.76	3.2 ±0.1
5	26 ±1	21.40 ±0.57	29.93 ±4.15	3.5 ±0.2
6	23 ±1	23.71 ±0.42	29.47 ±0.78	3.1 ±0.1
7	26 ±1	19.92 ±0.45	30.19 ±0.56	3.4 ±0.3

Table 6

Mean Values (rest data only)

Expt. #	Forehead temp(°C)	Rectal temp(°C)	Skin temp(°C)	Body temp(°C)	Heart rate (beats/min)
1	37.46 ±.41	38.43 ±.39	36.81 ±.15	37.95 ±.32	116 ±12
2	36.37 ±.38	38.20 ±.33	36.57 ±.32	37.72 ±.33	113 ±15
3	35.46 ±.35	38.10 ±.24	36.39 ±.17	37.58 ±.22	108 ±9
4	33.89 ±.15	37.57 ±.27	33.49 ±.23	36.12 ±.34	84 ±6
5	32.81 ±.20	37.70 ±.03	33.72 ±.16	36.30 ±.06	81 ±4
6	32.25 ±.15	37.62 ±.04	33.61 ±.22	36.43 ±.10	77 ±12
7	36.88 ±.35	38.03 ±.32	36.30 ±.36	37.51 ±.33	101 ±14

Table 6 (contd.)

Mean Values (rest data only)

Expt. #	Resp. rate (per min)	Min Volume (liters)	pCO (mm Hg)	Mask Pressure (cm H_2O)
1	18 ±1	9.26 ±1.72	26.75 ±1.00	2.2 ±0.5
2	18 ±1	8.87 ±0.85	25.87 ±0.90	2.1 ±0.3
3	19 ±1	9.70 ±0.75	23.63 ±1.04	1.4 ±0.1
4	18 ±1	7.78 ±0.47	27.09 ±0.68	1.4 ±0.1
5	19 ±.4	7.49 ±0.64	26.02 ±0.64	1.7 ±0.2
6	17 ±1	7.88 ±0.13	23.45 ±0.51	1.5 ±[illegible]
7	18 ±1	7.70 ±0.37	25.87 ±0.31	1.6 ±0.3

Table 7

Regression Equations (walk data only)

(x = time in minutes, y = physiological variables in different units)

Expt.#	Forehead temp. (°C)	Rectal temp. (°C)	Skin temp. (°C)
1	y = 36.62 + .00595 ** x	y = 37.51 + .00695 ** x	y = 36.18 + .00319 ** x
2	y = 34.90 + .00711 ** x	y = 37.42 + .00579 ** x	y = 35.89 + .00449 ** x
3	y = 35.00 + .00069 x	y = 37.54 + .00465 ** x	y = 35.99 + .00210 * x
4	y = 33.49 + .00062 x	y = 37.54 + .00145 ** x	y = 33.28 + .00079 x
5	y = 32.05 + .00149 x	y = 37.70 + .00074 x	y = 33.47 - .00013 x
6	y = 32.30 - .00170 x	y = 37.48 + .00134 ** x	y = 33.44 - .00160 x
7	y = 36.13 + .00507 ** x	y = 37.41 + .00517 ** x	y = 35.50 + .00363 ** x

*$P < 0.05$, **$P < 0.01$

Table 7 (contd.)

Regression Equations (walk data only)

Expt.#	Mean body temp. (°C)	Heart rate (beats/min)	Respiration rate (per min)
1	y = 37.11 + .00582 ** x	y = 126 + .16574 * x	y = 25 + .00115 x
2	y = 36.96 + .00540 ** x	y = 128 + .07213 * x	y = 23 + .02163 ** x
3	y = 37.07 + .00387 ** x	y = 133 - .02865 x	y = 22 - .00656 x
4	y = 36.26 + .00126 ** x	y = 115 + .03594 x	y = 24 + .00736 x
5	y = 36.43 + .00048 x	y = 115 + .01903 x	y = 24 + .00929 x
6	y = 36.26 + .00052 x	y = 112 + .01054 x	y = 22 + .01403 ** x
7	y = 36.84 + .00471 ** x	y = 119 + .12783 ** x	y = 25 + .00710 x

*$P < 0.05$, **$P < 0.01$

Table 7 (contd.)

Regression Equations (walk data only)

Expt.#	Minute Volume (liters)	Partial tension of CO_2 (mm Hg)	Mask Pressure (cm H_2O)
1	y = 21.09 + .02337 ** x	y = 32.53 - .01369 * x	y = 3.6 + .00265 x
2	y = 22.16 + .00569 x	y = 32.42 - .01305 * x	y = 3.7 + .00206 x
3	y = 23.33 - .00037 x	y = 31.66 - .00849 x	y = 3.9 + .00047 x
4	y = 21.50 - .00152 x	y = 32.41 - .00944 x	y = 3.2 + .00000
5	y = 21.90 - .00082 x	y = 32.69 - .01263 ** x	y = 3.4 + .00042 x
6	y = 24.22 - .00422 x	y = 30.62 - .00966 ** x	y = 3.2 - .00120 x
7	y = 19.48 + .00376 x	y = 31.07 - .00730 x	y = 3.1 + .00276 x

*P $<$ 0.05, **P $<$ 0.01

Table 8

Regression Equations (rest data only)

(x = time in minutes, y = physiological variables in different units)

Expt.#	Forehead temp. (°C)	Rectal temp. (°C)	Skin temp. (°C)
1	y = 35.54 + .01202 ** x	y = 37.54 + .00592 ** x	y = 35.32 + .00923 ** x
2	y = 35.53 + .00544 ** x	y = 37.49 + .00469 ** x	y = 35.13 + .00875 ** x
3	y = 35.79 - .00155 x	y = 37.45 + .00412 ** x	y = 35.27 + .00678 ** x
4	y = 33.80 + .00059 x	y = 37.37 + .00183 ** x	y = 32.97 + .00330 ** x
5	y = 32.70 + .00080 x	y = 37.52 + .00100 * x	y = 33.08 + .00387 ** x
6	y = 32.81 - .00284 x	y = 37.38 + .00140 ** x	y = 33.03 + .00399 ** x
7	y = 35.85 + .00642 ** x	y = 37.49 + .00366 ** x	y = 35.05 + .00778 ** x

*P $<$ 0.05, **P $<$ 0.01

Table 8 (contd.)

Regression Equations (rest data only)

Expt.#	Mean body temp. (°C)	Heart rate (beats/min)	Respiration rate (per min)
1	y = 36.87 + .00691 ** x	y = 89 + .17721 ** x	y = 18 - .00103 x
2	y = 36.78 + .00591 ** x	y = 82 + .20443 ** x	y = 17 + .00507 x
3	y = 36.79 + .00492 ** x	y = 86 + . 14235 ** x	y = 18 + .00484 x
4	y = 36.23 - .00080 x	y = 76 + .05357 ** x	y = 17 + .01000 * x
5	y = 36.18 + .00186 ** x	y = 77 + .02823 x	y = 19 - .00121 x
6	y = 36.07 + .00225 ** x	y = 76 + .00842 x	y = 17 + .00212 x
7	y = 36.76 + .00490 ** x	y = 77 + .16548 ** x	y = 18 + .00280 x

*P $<$0.05, **P $<$0.01

Table 8 (contd.)

Regression Equations (rest data only)

Expt.#	Minute Volume (liters)	Partial tension of CO_2 (mm Hg)	Mask Pressure (cm H_2O)
1	y = 6.90 + .01571 ** x	y = 25.98 + .00341 x	y = 1.5 + .00499 ** x
2	y = 7.70 + .00815 x	y = 25.68 - .00059 x	y = 1.6 + .00352 * x
3	y = 9.08 + .00483 x	y = 23.42 + .00030 x	y = 1.5 - .00064 x
4	y = 7.52 + .00216 x	y = 26.54 + .00200 x	y = 1.5 - .00042 x
5	y = 7.65 - .00071 x	y = 26.16 - .10211 x	y = 1.4 + .00186 * x
6	y = 8.91 - .00584 * x	y = 23.64 - .00215 x	y = 1.9 - .00169 x
7	y = 7.35 + .00239 x	y = 25.61 + .00092 x	y = 1.2 + .00279 * x

*P $<$ .05, **P $<$ .01

the same as those of the walk and rest periods combined. The T_f in experiments with mask only was higher than in those with head bare (B) both under hot and cold conditions. However, these differences were statistically significant only for the experiments in the heat (Appendix Table IA). The difference in T_f between the cold and heat experiments was highly significant. The wearing of the hood resulted in a significantly higher T_f in cold experiments. In heat experiments this was true for walk data only (Appendix Tables IB and IC).

The rise in T_f with time was highly significant in HM, HH, and HN experiments (Tables 7 & 8 and Figure 1). The differences in regression coefficients among these experiments were not significant for the walk data (Appendix Table ID). However, for the rest data, the rise in T_f in HH experiments was significantly faster than in HM and HN experiments (Appendix Table IE). The 'b' values (i.e., regression coefficients) were larger in heat experiments with hood (viz., HH and HN) for the rest data as compared to the walk data. In HB experiments and in experiments in the cold there was an initial decline in T_f for the first forty minutes. Then it remained steady up to 160 minutes when it began to rise. The rise was most pronounced in HB experiments followed by CH experiments.

(b) Rectal Temperature---The mean rectal temperature (T_r) was higher in heat experiments as compared to those in the cold (Tables 4,5,6). In the heat, T_r was higher with the hood than with mask alone and lower without either mask or hood. T_r in HN experiments approached the value of that in HB experiments. However, none of these differences were statistically significant and thus not included in the tables of 't' tests. Some of the data were tested by the Analysis of Variance. The analysis revealed a great deal of variation due to subjects. This might have contributed to the non-significant differences in the responses among different experiments.

There was a significant rise in T_r with time in all the experiments (Tables 7 and 8, Figure 2). The slope is steeper in heat experiments than in cold experiments. The coefficients were larger in experiments with mask and hood on than in those with mask only at both high and low room temperatures. However, these differences were not significant (Appendix Tables ID and IE). The rise in T_r was faster in HM experiments than in HB experiments. For the walk data the 'b' value was larger in HN experiments than in HB experiments.

(c) Mean Skin Temperature---The mean skin temperature (T_s) was calculated from the unweighted average of the readings of the thermocouples in four locations

excluding the forehead. T_s was significantly higher in heat experiments than in the cold (Tables 4, 5 and Appendix Tables IA, IB and IC). T_s in HH experiments was higher than in HM experiments. HM experiments in turn yielded a higher T_s than HB experiments. HN experiments with a large surface area exposed to the environment yielded the lowest T_s.

The time trend in T_s was significant in all the experiments under resting conditions (Table 8). For the walk data this was true only for experiments in the heat (Table 7). However, there were no significant differences among heat or cold experiments in their 'b' values (Appendix Tables ID and IE). It will be seen from Figure 3 that in HN experiments with the body exposed for evaporation, T_s was lowest of all heat experiments both in its magnitude and rate of change. The difference became smaller as the experiment progressed, particularly during the latter half of the experimental period.

(d) Mean Body Temperature---Mean body temperature (T_b) was calculated from the rectal and skin temperatures weighted two-thirds and one-third respectively.

In the experiments at 40°C T_b was the highest in the HH series and in HN series it was the lowest (Table 4). The HM experiments yielded higher T_b than did the HB experiments. At low room temperature the highest T_b was recorded in CM experiments. Wearing of the hood caused a greater rise in T_b for the walk data at both room temperatures. The rise in T_b in HN experiments was slow during the first half of the experimental period (Figure 4). After the second hour of the experiments, the slopes in HN and HB experiments became parallel. For the walk data the 'b' value in HN experiments was greater than in HB experiments (Table 7). For the rest data the 'b' values in both HN and HB experiments were identical (Table 8).

2. Heart Rate: Due to the mechanical and electrical interference encountered occasionally in recording the heart rate from the subjects while walking, the data on the heart rate obtained during the walk periods were fewer than those obtained during the rest periods.

The average heart rates were higher in experiments in the heat than in the cold (Tables 4, 5, 7). The wearing of the mask and hood resulted in higher rates both in heat and cold experiments, while the wearing of the mask alone resulted in higher rates only in experiments in the heat. Heart rates were about the same both in HB and HN experiments.

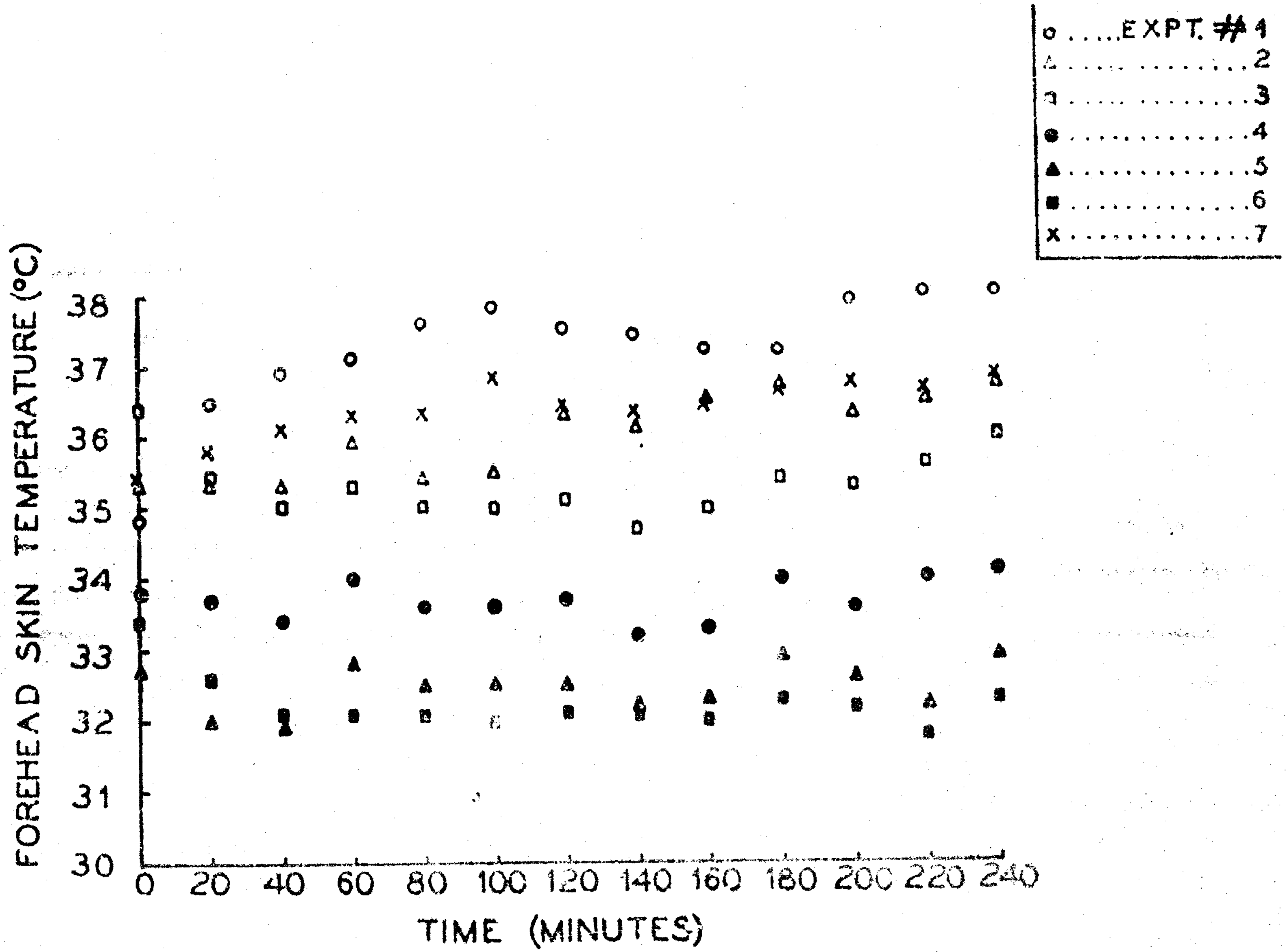


FIGURE 1. TIME TREND IN FOREHEAD SKIN TEMPERATURE

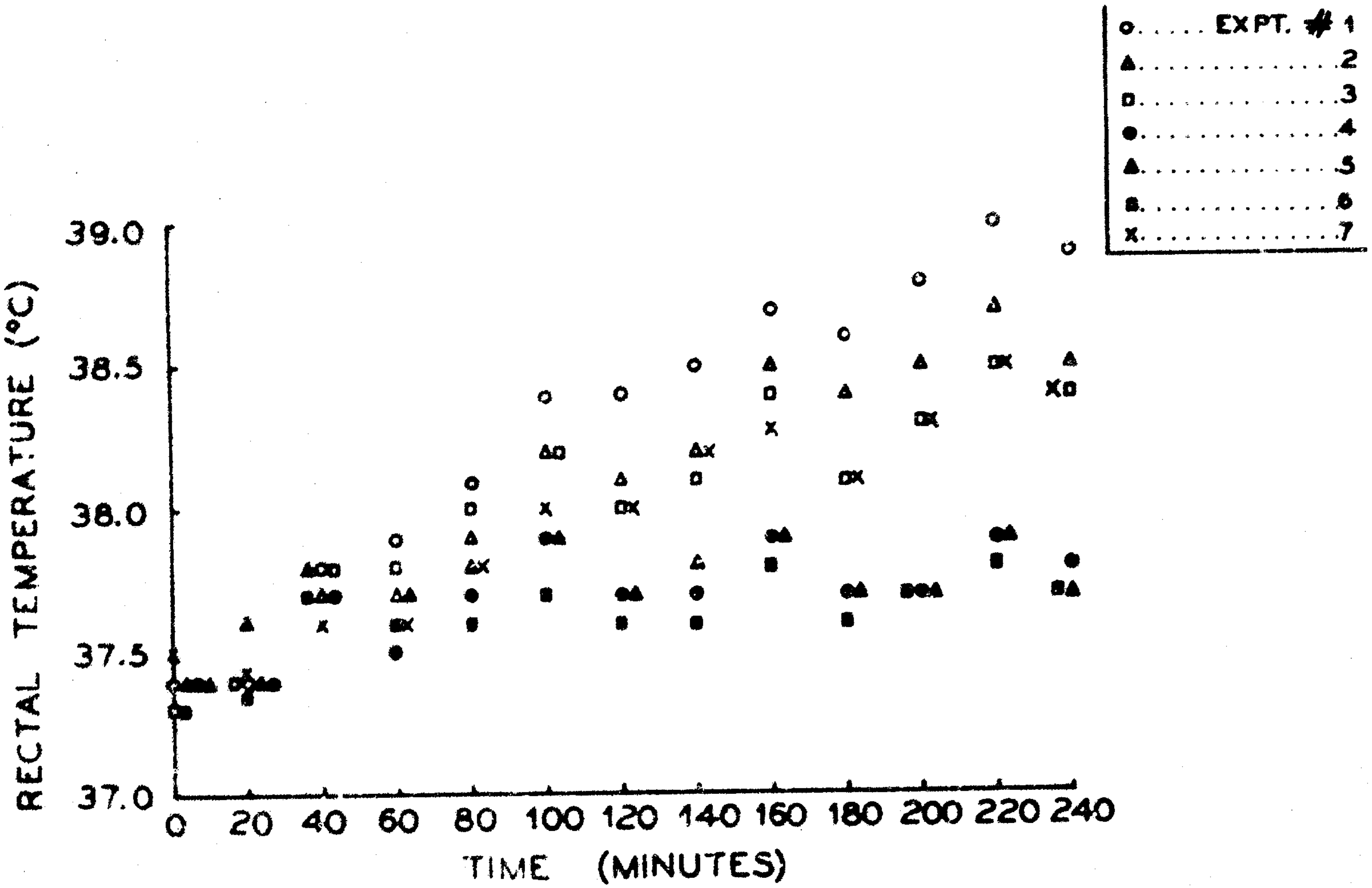


FIGURE 2. TIME TREND IN RECTAL TEMPERATURE

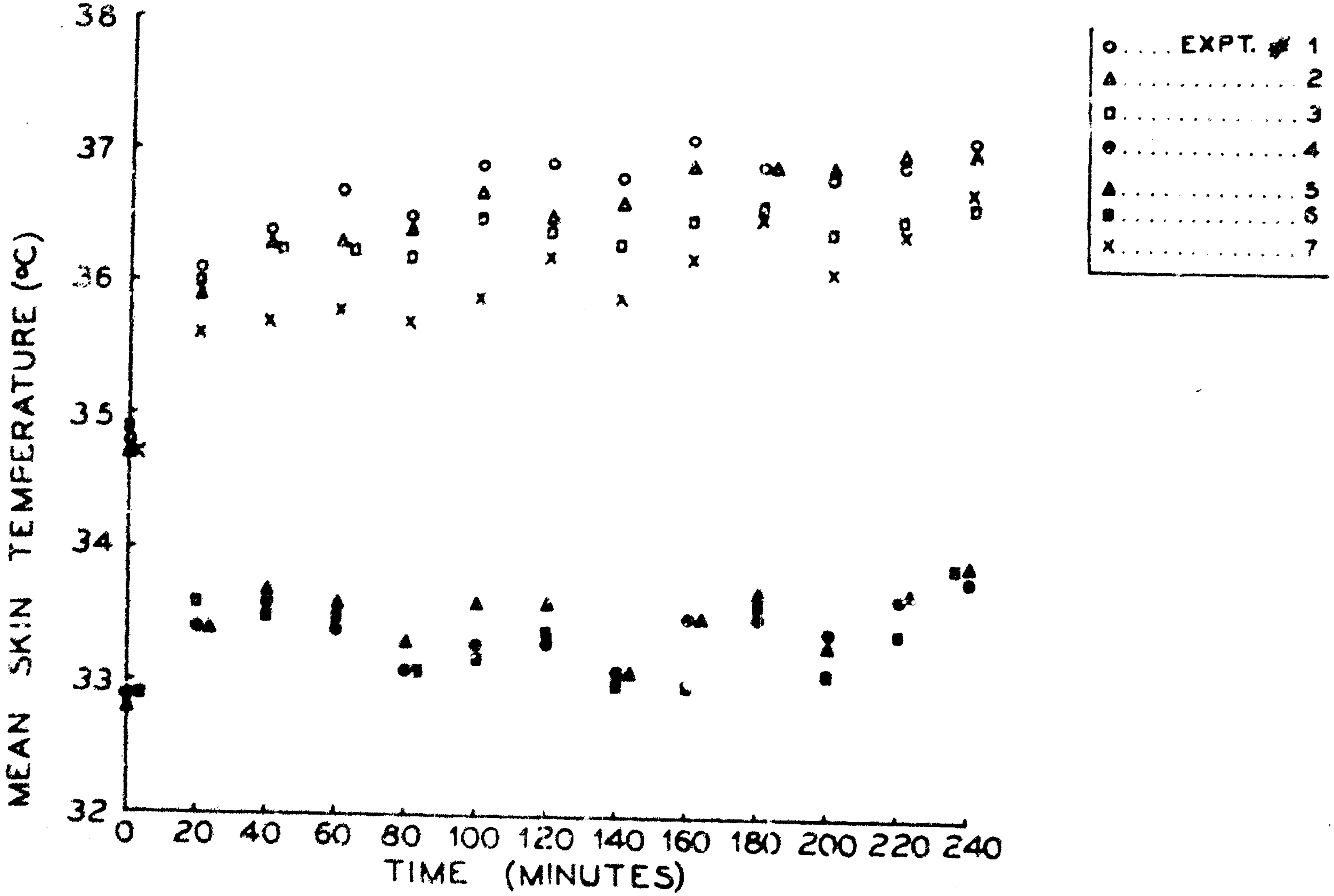
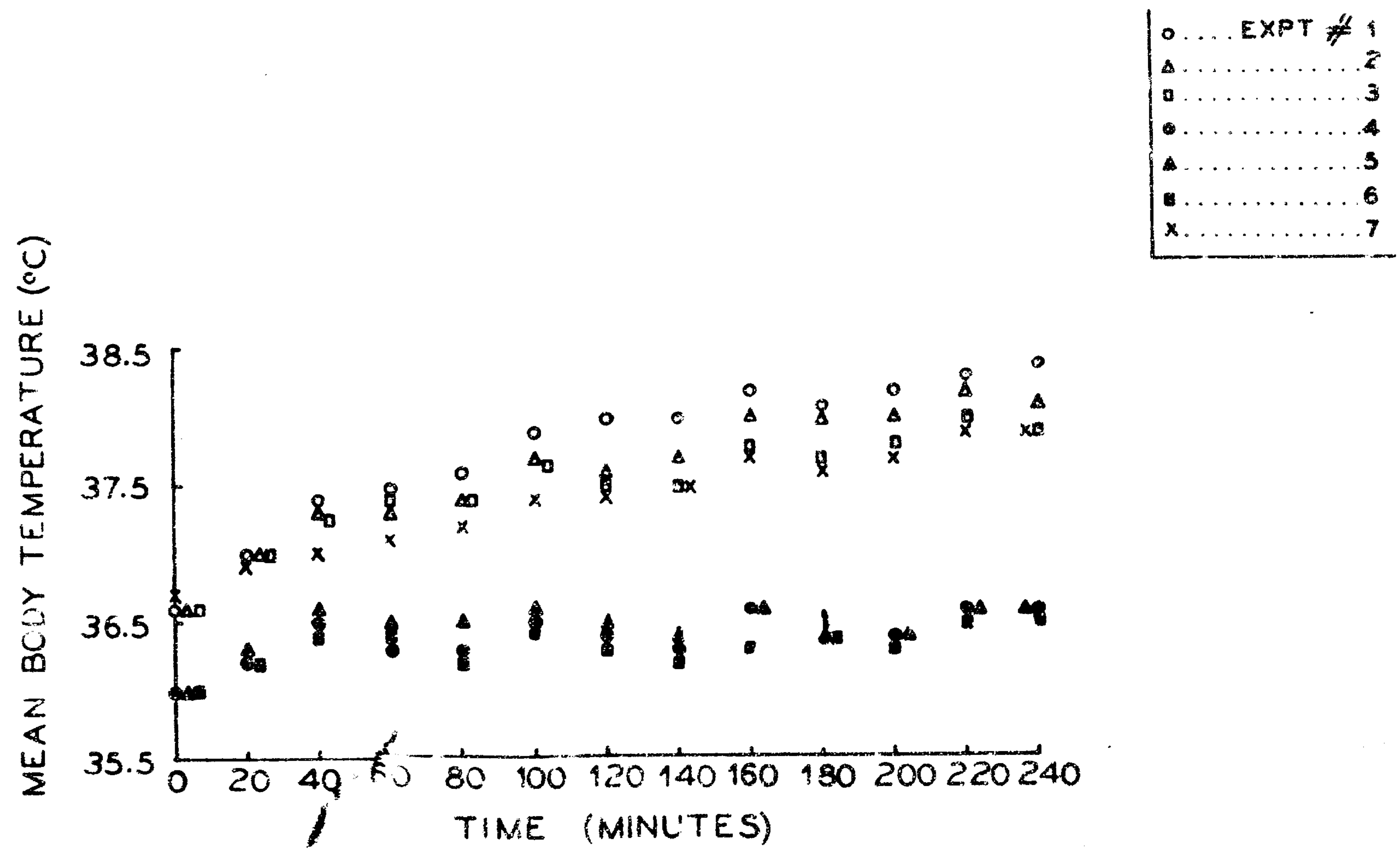


FIGURE 3. TIME TREND IN MEAN SKIN TEMPERATURE



URE 4. TIME TREND IN MEAN BODY TEMPERATURE

There was a significant increase in the rate with time in the experiments in the heat for the rest data (Table 8 and Figure 5). For walk data the rise in rate was not significant in HB experiments (Table 7). For walk data, the regression coefficient was largest in HH experiments followed in order by those in HN, HM, and HB experiments. For rest data the 'b' value was largest in HM experiments. This was followed by the 'b' values in HH, HN and HB experiments. In cold experiments the rise in heart rate was greatest in experiments with the hood on (CH) and lowest in experiments with the head kept bare (CB).

3. Respiratory variables: Unlike body temperatures there was little difference in respiratory responses between different experiments within the same ambient temperature.

(a) Respiration Rate---There was hardly any difference in respiration frequency (f) among different experiments whether in the heat or in the cold. The mean respiration rate varied from 20 to 23 per minute (Tables 4, 5, 6). The rise in f with time was significant only in HM and CB experiments for walk data (Table 7). These 'b' values were significantly larger than that of the HB experiments (Appendix Table ID).

(b) Minute Volume---Hood wearing resulted in higher minute volume ($\dot{V}$) than wearing the mask alone both in hot and cold conditions (Table 4). However, $\dot{V}$ was highest in experiments (HB, CB) with the uncovered head at both room temperatures. Lowest $\dot{V}$ was obtained in HN experiments. When walk data were analyzed separately, HH experiments yielded the highest $\dot{V}$, followed by HB and HM experiments (Table 5). None of these differences were statistically significant (Appendix Table IB). In CB experiments $\dot{V}$ was significantly higher than in the other two experiments in the cold. In rest data, $\dot{V}$ was significantly higher in HB than in HN and all experiments in the cold (Table 6 and Appendix Table IC).

There was significant increase in $\dot{V}$ with time in HH experiments both in walk and rest data (Tables 7 and 8 and Figure 6). In these experiments the regression coefficient was significantly larger than those in HN and all experiments in the cold (Appendix Tables ID and IE). For rest data there was a significant decrease in $\dot{V}$ with time in CB experiments.

(c) Partial Tension of Carbon Dioxide---The average partial tension of CO_2 (pCO_2) in the expired air ranged from 27 to 30 mm Hg in different experiments (Table 4).

The differences in pCO_2 among these experiments were not statistically significant (Appendix Table IA). When the rest data only were considered, the average pCO_2 in CB experiments was significantly lower than that in all but one HB experiments (Table 6, and Appendix Table IC). Besides, the mean pCO_2 in HB experiments was significantly lower than in experiments with the hood on both in the 40°C and 21°C experiments.

In the majority of experiments there was a decline in pCO_2 with time (Tables 7 & 8 and Figure 7). However, the regression coefficients were significantly different from zero only in HH, HM, CM and CB experiments for the walk data. At 40°C the decline in CO_2 pressure was maximum in experiments with the hood on. Wearing the mask alone resulted in a greater decline than with the head left bare. At 21°C only mask wearing resulted in a maximum decline in pCO_2. The decline was minimum in HN experiments.

(d) Mask Pressure---The average peak mask pressures (P_m) were higher in experiments in the heat than in the cold (Table 4). The pressures varied from 3.0 to 3.3 cm H_2O at higher room temperature and from 2.5 to 2.8 cm H_2O at the lower room temperature. The P_m in HN experiments was 2.7 cm H_2O. However, these differences in P_m among different experiments were not statistically significant and thus are not included in the tables of 't' tests (Appendix Table IA). For walk data, P_m in CH and CB experiments were significantly lower than in all but HN experiments in the heat (Table 5 and Appendix Table IB). For rest data the P_m was significantly higher in HM experiments than in HB and CH experiments (Table 6 and Appendix Table IC).

The 'b' value for P_m was not significantly different from zero for walk data indicating that no real increase occurred (Table 7 and Appendix Table ID). For rest data the rise in P_m was significant in HH, HM, CM and HN experiments.

4. Responses During the Final Walk: The data obtained prior to the final resting period corresponds with the observations at 220 minutes in the Figures 1 through 7. These data listed in Table 9 represent approximately the peak values of different responses obtained in different experiments. In general the values were greater than the average values obtained for the entire walk data (Table 5).

As earlier, T_f was maximum in experiments with hood on and minimum in experiments with the bare head. HN experiments ranked next to the HH experiments in T_f.

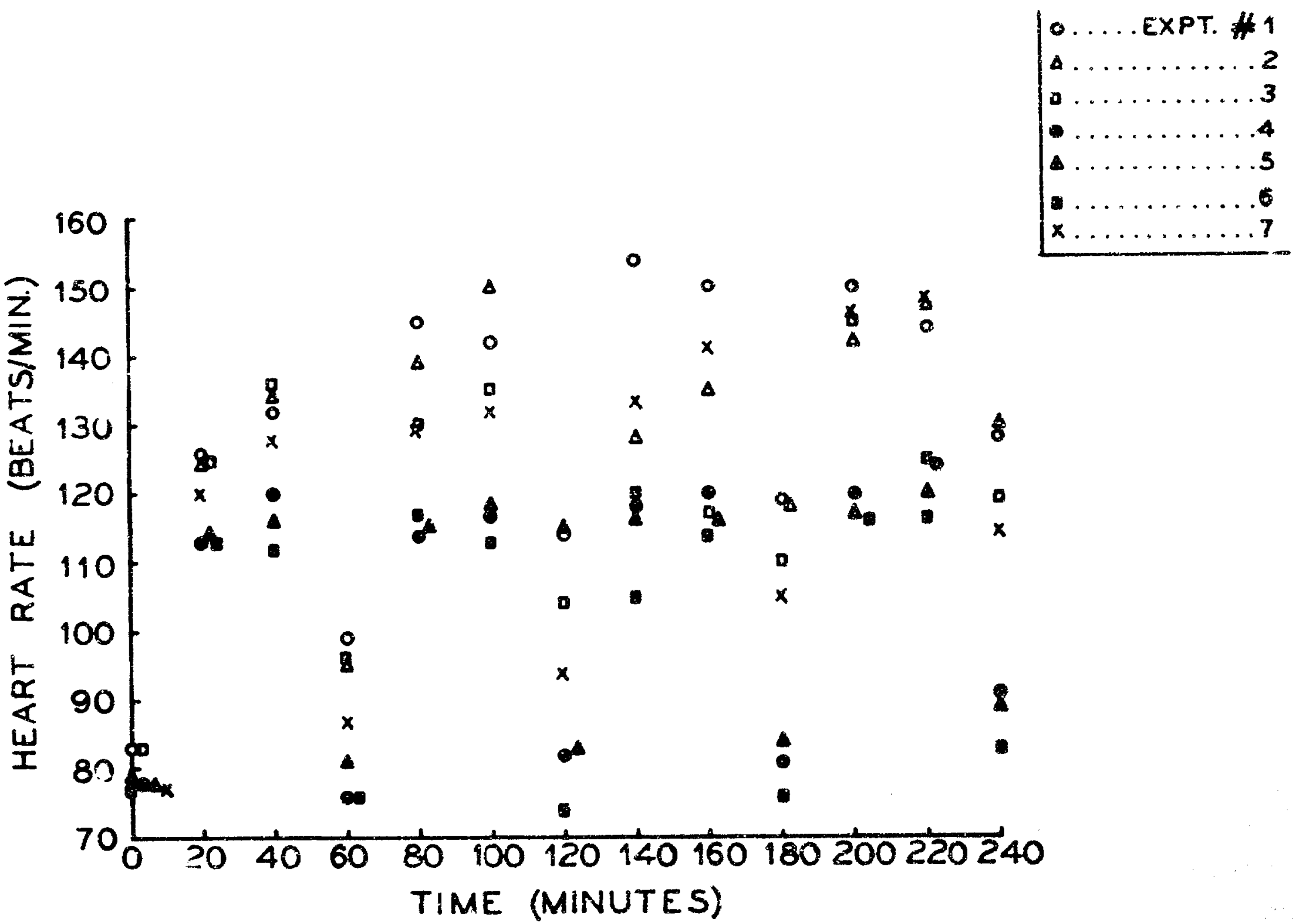


FIGURE 5. THE TREND IN HEART RATE

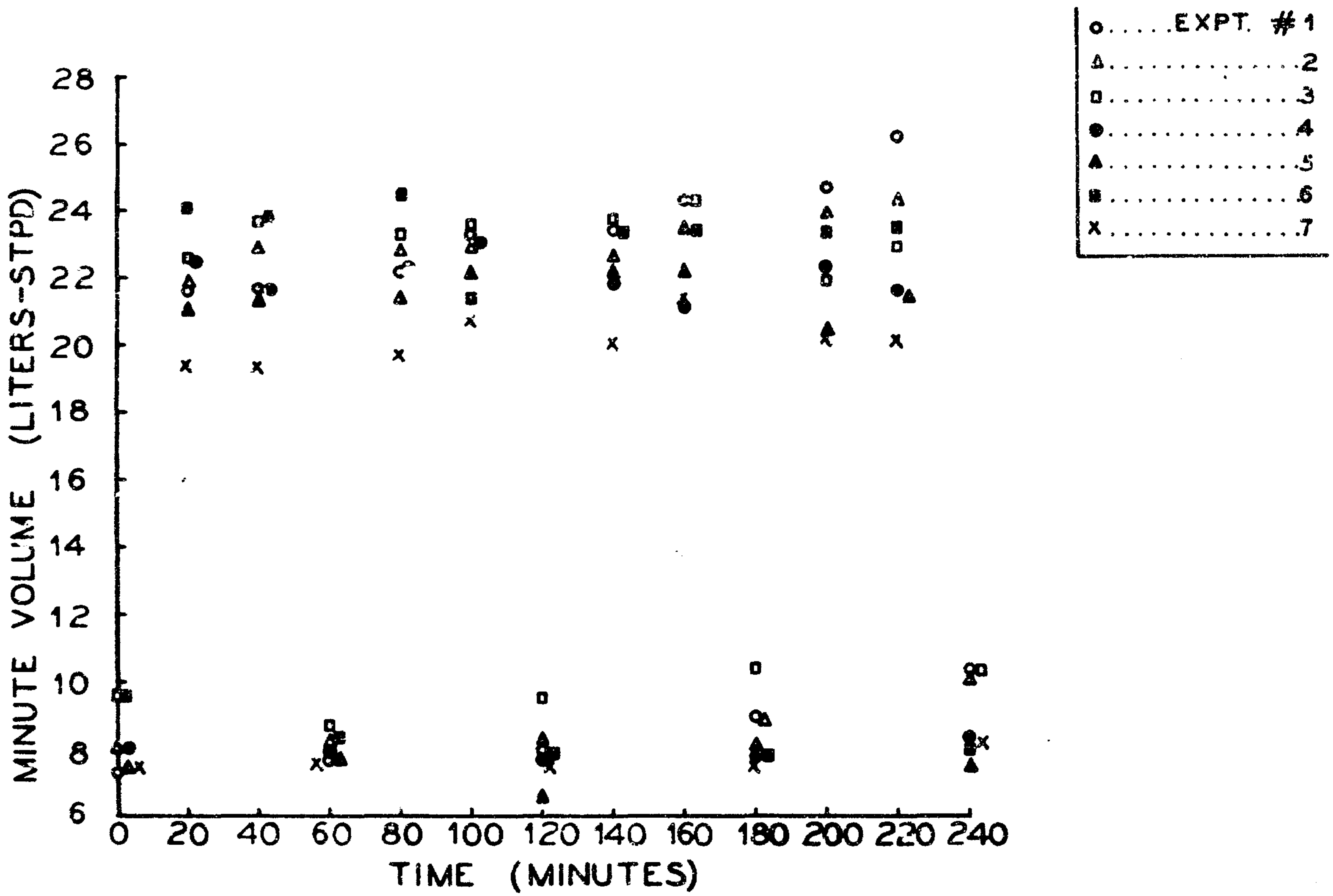


FIGURE 6. TIME TREND IN RESPIRATORY VOLUME

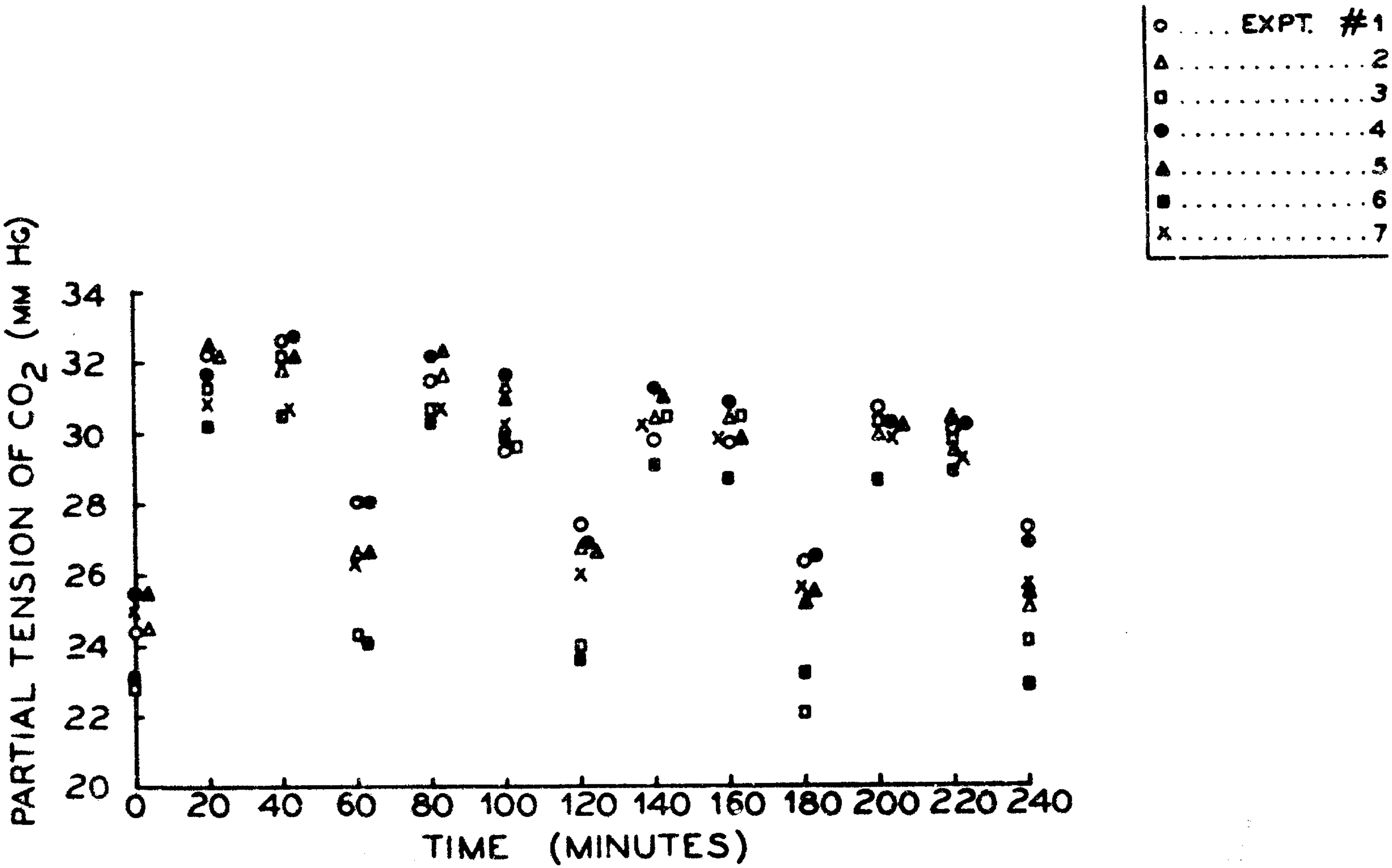


FIGURE 7. TIME TREND IN PARTIAL TENSION OF CARBON DIOXIDE

Table 9

Mean Values of Last Observations During Walk

Expt. #	Forehead temp(°C)	Rectal temp(°C)	Skin temp(°C)	Body temp(°C)	Heart rate (beats/min)
1	37.83 ±0.48	38.98 ±.44	36.71 ±.82	38.29 ±.35	144
2	36.60 ±1.14	38.63 ±.38	36.79 ±.65	38.08 ±.45	147 ±9
3	35.59 ±1.16	38.59 ±.25	36.58 ±.88	37.91 ±.41	133 ±22
4	34.37 ±1.11	37.96 ±.21	33.95 ±1.00	36.63 ±.26	126 ±7
5	32.46 ±1.24	37.83 ±.26	33.60 ±.72	36.61 ±.28	120 ±7
6	31.66 ±0.96	37.84 ±.28	33.42 ±.62	36.51 ±.29	117 ±12
7	36.63 ±1.83	38.41 ±.56	36.17 ±.88	37.88 ±.56	142 ±17

Table 9 (contd.)

Mean Values of Last Observations During Walk

Expt. #	Resp. rate (per min)	Min Volume (liters)	pCO_2 (mm Hg)	Mask pressure (cm H_2O)
1	24 ±3	27.27 ±7.86	29.66 ±5.15	4.1 ±0.8
2	28 ±5	23.88 ±5.17	29.71 ±3.77	4.3 ±1.2
3	20 ±3	22.30 ±3.19	29.79 ±3.35	3.8 ±1.9
4	26 ±5	21.42 ±3.78	29.93 ±2.72	3.2 ±1.2
5	27 ±6	21.28 ±5.26	30.25 ±2.65	3.8 ±1.4
6	25 ±3	23.23 ±2.59	29.13 ±3.07	2.9 ±0.8
7	26 ±5	19.92 ±3.81	29.59 ±3.24	4.0 ±1.2

However, the difference in T_r was statistically significant only when the experiments in the heat were compared with those in the cold (Appendix Table IV). A similar trend was found with respect to T_r. The average T_r in HH experiments was only 0.2°C higher than in HH experiments. The T_r in HH experiments only was significantly greater than in all experiments at the lower temperature. Mean T_s was maximum with mask and hood on followed by mask alone. This was consistent both in heat and cold experiments. However, the difference in T_s among different experiments within the same ambient temperature was not statistically significant. The response in T_b in different experiments was essentially the same as that of T_s with regard to the relative magnitude and their statistical significance.

The average heart rate was higher at the 40°C ambient temperature. However, this was not significantly different from the average rate at lower temperature. This might be due to the small degrees of freedom available for statistical tests and also due to the large variation among the subjects.

None of the respiratory variables showed any significant difference in their relative magnitudes in different experiments. Thus they were not listed in the tables of 't' tests.

As before, respiration rate changed very little from experiment to experiment. The only conspicuous difference in $\dot{V}$ was in HH experiments. The last observed $\dot{V}$ during walk was on an average 3.4 liters greater than the average $\dot{V}$ of all the walk data (Table 5). The average final pCO_2 during walk was lower than the average pCO_2 of all the walk data. However, the average pCO_2 of the rest data (Table 6) and that of the walk and rest data combined (Table 4) were lower than the last observed pCO_2 during walk. As earlier, P_m was maximum in experiments with mask only at both room temperatures. However, the differences among different experiments were not statistically significant.

5. <u>Body Weight</u>: Loss in body weight of the subjects was recorded by weighing them nude before and after the end of the experiments. They were also weighed with their clothes on every hour during the resting period. In addition, the gain in weight of the clothes worn by the subjects was also recorded by weighing the clothes at the beginning and at the end of the experiments.

(a) <u>Nude Weight Loss</u>---Hood wearing had the effect of adding 0.28 Kg over mask wearing alone at the higher room temperature and 0.15 Kg at the lower room temperature

to the sweat production of the subjects as measured by their nude weight loss (Table 4). As compared to the experiments with the bare head, those with mask alone resulted in 0.29 Kg greater nude weight loss at high room temperature and 0.15 Kg at low room temperature. The average nude weight loss in HN experiments was 0.23 Kg less than that in HB experiments. Significant differences existed in nude weight loss in experiments between two ambient temperatures but not between experiments within the same ambient temperature (Appendix Table IA).

The results were essentially the same when dehydration was expressed as percent of the body weight at the beginning of the experiment. The nude weight loss varied from 3.22 to 4.38 percent in the heat and from 1.56 to 1.82 percent in the cold. Only occasionally a 5% body weight loss was obtained prior to the attainment of a rectal temperature of 39.3°C as was asked for in the original protocol of this study. It is obvious from Table 10 that the subjects, especially those with hood were reaching 39.93°C rectal temperature prior to very much dehydration. It may be that a high degree of dehydration with the hood prior to the 39.3°C limit will be difficult to obtain under the present experimental set-up.

(b) Clothed Weight Loss---The evaporative loss from the subjects with their clothes on, when the experiment is in progress, is given by their clothed weight loss. Adding hood over the mask made little difference in clothed weight loss at either room temperatures (Table 4). However, with neither mask nor hood covering the head, the clothed weight loss became smaller particularly in experiments in the heat. In HN experiments characterized by only the head and loin covered, the clothed weight loss was 2.40 Kg in four hours while in HB experiments where only the head was not covered, the loss was 2.23 Kg. As in nude weight loss, the difference in clothed weight loss was statistically significant only in experiments between two temperatures and not among experiments within the same temperature (Appendix Table IA).

(c) Gain in Clothes---The loss of body water which was not evaporated but was arrested by the clothes worn is given by the gain in weight of the clothes at the end of the experiments. It was maximum in experiments in the heat when the subjects had both mask and hood on, intermediate with mask alone and minimum with barehead (Table 4). The difference became nonexistent in cold experiments.

Table 10

Dehydration of the Subjects During Experiments in the Heat (DBT 40°C) at a Rectal Temperature of 39.3°C

Subject	Time Required to Reach T_r = 39.3°C (hr)	Dehydration (percent of body wt)	Remarks
R.H.	2.0	2.04	Hood
R.H.	2.5	1.48	Hood
R.H.	2.0	1.39	Hood
R.H.	4.0	3.70	Bare head
D.N.	3.0	2.59	Hood
D.N.	3.5	3.88	Hood
D.N.	4.0	3.26	Mask only
L.C.	2.5	2.48	Hood
L.C.	1.5	1.47	Hood
L.C.	3.5	3.72	Mask only
T.S.	3.5	2.11	Hood
T.S.	3.8	4.19	Mask only
R.B.	1.8	1.53	Hood
R.B.	3.0	3.20	Mask only
C.Z.	3.5	3.12	Hood

6. Evaporative Heat Loss: This was calculated from the clothed weight loss and expressed in cumulative frequency for the four hourly measurements taken during the resting periods of the experiment (Tables 11 & 12).

During the first two hours of the experiment there was more evaporative loss from the subjects wearing only the mask than when wearing both the mask and hood. This was true for experiments at both high and low room temperatures. During the last two hours the evaporative loss with mask and hood on approached the same value as in experiments with only the mask on. The evaporative loss was consistently greater in HN experiments than in HB experiments. The evaporative loss was consistently lower in experiments where the head was left bare than in those where the head was covered with either mask or hood.

7. Heat Storage: As expected, the heat storage was greater at high than at low room temperatures (Table 13). At both temperatures, it was maximum when the subjects were wearing the hood. The difference in heat storage between experiments with mask and hood and mask alone became inconsistent in experiments in the cold. Heat storage was also greater at high temperature when the head was covered by mask than when the head was bare. The difference disappeared at low temperature. Heat storage was 42.6 cal/m^2 in HB experiments and 39.5 cal/m^2 in HN experiments. The difference between the two experiments in heat storage was 12.7, 16.8, 5.8 and 3.1 cal/m^2 on the first, second, third and fourth hour respectively.

8. Oxygen Consumption: Due to the technical difficulties the number of respiratory gas samples analyzed for oxygen concentration was small. As seen in Table 4, the average values of oxygen consumption in CH, CM and CB experiments were 0.68, 0.72 and 0.86 liters/min respectively.

9. Responses during Early Termination of the Assigned Walk: Physiological responses and subjective symptoms at the time when the subjects were unable to continue the walk were recorded and are presented in Table 14. The majority of failures occurred in the experiments in the heat when both mask and hood were worn. Examination of the data in Table 14 and comparing them with the average values of walk data in Table 5 revealed that the body temperatures, pulmonary ventilation and mask pressures were higher and expired carbon dioxide pressures were lower when the subjects discontinued the walk. The response which appeared to be consistent irrespective of the experimental conditions is the attainment of a rectal temperature of about 39.0°C. In the experiments with hood on, the face appeared to be unusually red and a feeling of discomfort was frequently reported. Besides the symptoms listed in Table 14 lack of motivation for a prolonged walk

indoors, inability to wipe the sweat dripping from the forehead, unusual feeling of expired air over the eyes and face were also complained of. Only one subject (G.C.) continued the walk for five hours in different experiments. These data are included in the mass of raw data collected from the subjects. This subject was fairly resistant to heat stress as indicated by the low rise of his body temperatures. There was a general tendency for the ventilation to remain fairly constant until the termination rectal temperature of 39.3°C. However, only one subject (D.N.) showed clear cut hyperventilation with a reduction in the tension of expired carbon dioxide prior to the attainment of 39.3°C rectal temperature. This occurred with both mask and hood on.

10. Inter-relationship among Different Physiological Responses: Separate calculations were done for each experiment and also the data obtained during walk were treated separately from those obtained during rest within the same experimental condition (Appendix Tables IIA and IIB).

In both walk and rest data of the experiments in the heat, the forehead skin temperature showed a significant positive correlation with rectal temperature and also with the mean skin temperature. A significant positive correlation was consistently obtained between T_r and T_s in all the experiments. Mean body temperature being directly calculated from the rectal and skin temperature, a high correlation between T_b and both T_r and T_s was very obvious. Body temperatures also showed a consistent positive correlation with heart rate in all the experiments. The relationship between the body temperatures and partial tension of CO_2 was inverse in most cases. However, the negative correlation coefficients between T_r and pCO_2 were statistically significant only in two experiments viz., those with the mask and hood and with mask alone in hot conditions. The relationship between T_b and minute volume was positive, particularly in the walk data. The same was true between respiration rate and minute volume. The relationship between minute volume and partial tension of CO_2 was inverse in all the experiments. The negative correlation coefficients were statistically significant except in HN experiments. A highly significant positive correlation was obtained between minute volume and mask pressure in a majority of the experiments.

Table 11

Cumulative Clothed Weight Loss (Kg)

Expt.#	1st hr.	2nd hr.	3rd hr.	4th hr.
1	0.499	1.133	1.896	2.503
2	0.589	1.1224	1.895	2.496
3	0.440	1.060	1.629	2.228
4	0.222	0.500	0.809	1.039
5	0.257	0.529	0.786	1.034
6	0.229	0.501	0.736	0.997
7	0.539	1.164	1.790	2.395

Table 12

Cumulative Evaporation (Cal/m^{2}hr)

Expt.#	1st hr.	2nd hr.	3rd hr.	4th hr.
1	150	341	569	748
2	176	366	567	747
3	132	318	488	668
4	66	149	241	311
5	77	159	236	310
6	69	151	221	299
7	162	350	536	713

Table 13

Cumulative Heat Storage (Cal/m²/hr)

Expt.#	1st hr.	2nd hr.	3rd hr.	4th hr.
1	30.4	44.5	49.4	58.2
2	22.8	33.6	43.7	47.0
3	26.4	31.6	35.8	42.6
4	10.1	12.4	14.0	20.2
5	13.7	14.4	14.4	17.7
6	12.3	11.3	13.9	17.8
7	13.7	24.8	30.0	39.5

Table 14

Conditions at the Time of Discontinuing the Assigned Walk at 40°C

Subject	Expt.#	Time (hr)	T_f (°C)	T_r (°C)	T_s (°C)	Heart rate
R.B.	1	2.5	38.4	38.9	37.4	180
R.B.	2	3.0	35.5	39.5	38.4	-
R.B.	3	3.5	35.3	-	37.2	-
T.S.	1	3.5	38.2	38.8	37.2	-
T.S.	3	3.0	35.9	38.9	36.9	-
R.H.	1	3.0	37.9	38.9	37.6	-
R.H.	7	3.5	37.6	38.7	35.9	150
L.C.	1	3.0	36.8	38.8	37.2	-
B.K.	1	3.5	37.6	39.1	37.6	-

DISCUSSION

1. Heat Tolerance: In general, there appears to be no marked differences in physiological responses of the subjects wearing mask and hood and mask only at neutral ambient temperature as compared to the responses of the subjects with head uncovered. However, in the heat, early termination of the experiments was primarily due to wearing of the mask and hood. Based on the subjective opinion it appeared that the hood contributed more than its expected share to the complaint or impairment of the subjects.

Under heat stress conditions with the wearing of the mask and hood the major agent of impairment or discomfort seems to be thermal rather than respiratory in nature. That the E33 hood attached to the M17 mask contributes considerably to the heat stress of men wearing the CBR protective assembly has been reported by Craig and his associates (9). The experiments with the M6 hood in the heat (HH) in the present investigation resulted in a characteristic rise of body temperatures (Figures 1, 2, 3 and 4).

As early as 1909 Sutton (23) described the physical and mental state of men in hot humid conditions. Once the rise of rectal temperature was fairly marked (38.4-38.9°C) the continuance of any employment like reading a book or sitting in one position, became intensely tiresome. Later on, when the rectal temperature rose over 39.1°C any irritation, however slight, became not merely tiresome, but actually annoying and trying to one's temper. Immediate relief was felt on reaching the cool external temperature, and this was accompanied by a rapid fall in internal temperature (1.1-1.6°C) in 10-15 minutes. At a wet-bulb temperature of 35°C sweating became extremely profuse--saturating the flannels worn, and in one experiment the thick felt soles of a pair of shoes. Much irritation resulted from the sodden condition of these garments and from the damp condition of the face, from which, especially with definite rise of internal temperature, the perspiration poured off in big drops.

The average heat storage in HH experiments in the present study was 58.2 cal/m^2 at the end of the four-hour walk (Table 13). Craig et al. (28) in their experiments with acclimatized men observed that the best correlative of tolerance time of walking subjects on a treadmill was their heat load. During termination of the experiments by the subjects the following values of different physiological variables were obtained by the authors: heat storage 53.6 cal/m^2, rectal temperature 38.9°C, skin temperature 37.0°C, mean body temperature 38.3°C, the rise in body temperature 1.6°C, heart rate 170 and nude weight loss 2.05 Kg. In studies on

voluntary tolerance time in men working in insulative clothing in intense heat, Blockley (6) found that the average heat storage value as a determinant of the tolerance time and of duration of unimpaired performance was 77 cal/m^2. Higher values of this storage index were perhaps attainable here because of the rapidly rising skin temperatures. However, the value was 55 cal/m^2 for the least heat tolerant individuals.

2. Heat Induced Hyperventilation. Because the wearing of the mask in the present experiments could produce hyperventilation from respiratory influences, this was carefully considered in the present work. The increase in body temperature during exercise is well substantiated (3, 5, 20). The rise in temperature was found to vary in different individuals performing the same amount of work (16). However, relatively few measurements have been made of the effect of an increase in body temperature upon respiratory volume. Haldane (14) observed hyperpnea in men only when their rectal temperature exceeded 38.9°C. At 39.1°C it was marked during muscular work and distinctly noticeable during rest. Similary Graham and Poulton (12) did not observe dyspnea in their subjects until the rectal temperature exceeded 38.9°C.

Hill and Flack (17) found that the immersion of men up to the neck in a hot bath (43.3 - 46.1°C) raises their body temperature up to 39.2-40.3°C in 15 to 30 minutes. This is accompanied by increased pulse rate (up to 160) and respiratory volume (up to 50 liters). Bazett and Haldane (4) observed that in baths below 37°C respiration of men was unaffected. In hotter baths sweating began at a mouth temperature of 37.2°C. During rapid rise of temperature hyperpnea occurred. Its intensity varied with the rate of rise rather than the temperature. Thus one subject with a temperature of 37.2°C rising at 0.13° per minute breathed 27.3 liters per minute. Alveolar pCO_2 had fallen from 38.7 to 25.6 mm. The hyperpnea was accompanied by faintness, mental confusion and tingling. When the temperature became steady the symptoms abated. Thus with a steady body temperature of 38.6°C the same subject was breathing 12.7 liters per minute.

Landis et al. (19) studied the effects of hot baths on respiration in man. Total ventilation increased steadily as the body temperature rose. The minute volumes at rectal temperatures of 40.3 and 39.7°C were 34.4 and 21.6 liters respectively. In one subject the rate of rise in body temperature in the hot bath was 1.9°C per hour. Maximum rectal temperature reached in 65 minutes was 39.2°C. The maximum respiratory volume at that time was 16.6 l/min, respiratory rate 21 and minimum partial tension of alveolar CO_2 was 22.6 mm Hg. The authors concluded that in the hot bath increased ventilation was due partly to the rate of rise of body temperature and partly to the absolute level of body temperature.

The increase in ventilation in hot bath experiments has some times been ascribed partly to the increased thoracic pressure caused by the surrounding water. However, hyperventilation has also been observed outside the bath in a very hot humid environment. Cunningham and O'Riordan (10) worked at a wet-bulb temperature of 39°C. In three experiments the initial hyperpnea occurred after the rectal temperature of the subjects had risen 1.2, 1.0 and 0.2°C. In one subject minute volume was 40 liters at a rectal temperature of 39.0°C. The authors concluded from their experiments that the respiratory response to a constant raised temperature was smaller than that to a rising temperature. Iampietro (18) observed that the tolerance time of sitting men exposed to heat decreased as the incidence of tetany increased. It was noted that the environmental conditions which elicited most cases of tetany were not necessarily those with high dry-bulb temperatures. The incidence of tetany at DBT 115°F and WBT 100°F was 30% (tolerance time 67 minutes) and at DBT 115°F and WBT 111°F the incidence was 88% (tolarance time 27 min.). Thus the wet-bulb temperature appeared to be the more important factor. The author concluded that in the production of heat-induced tetany, it was the rate of change in blood pH and pCO_2 that was critical rather than their absolute changes. The change in body temperature and calcium concentration did not appear to be the important factors as tetany disappeared rapidly on removal from the hot room while the values of these two factors remained for a time at levels attained in the hot room. It should be noted because of its pertinence to the present work that this author reports that men working under severe heat and humidity conditions do not develop tetany.

One feature of hyperpnea of muscular exercise is its precise adjustment to the metabolic requirements of the subject. This is true even in cold environments where heat dissipation is not a limiting factor (21). The increase in ventilation has been found to be directly proportional to the intensity of work (13). The minute volumes at work loads of 180, 540 and 900 Kg-m/min were 15.1, 29.1 and 46.3 liters.

Ts'ao et al. (24) studied the influence of changes in body temperatures on respiration in exercising men wearing shoes, socks and shorts at 25° and 40°C. Relative humidity was 25% in both environments. In hard work (9.3 Km/hr 9% grade) experiments in the cool environment, the steady states of ventilation in the successive 10-minute bouts of exercise changed very little while the corresponding body temperature rose. On the other hand in prolonged moderate work (5.6 Km/hr, 2.5% grade --for 2 hours) in severe heat, hyperventilation

relative to oxygen consumption occurred when the subjects' rectal, mean skin and mean body temperature exceeded 39, 37 and 38°C respectively. Ventilation was not greatly affected by changes in rectal temperature between 37.5 and 39.0°C. This finding is similar to that of Dejours et al. (11) who found that when induced hyperthermia was smaller than 1°C no relative hyperventilation was observed and the ventilatory reactions to the onset of an exercise remained unchanged. Thus no evidence was found for any particular stimulation due to increase in central temperature in mild to moderate exercise.

In the present study the experiments always terminated with a rectal temperature of about 39°C. With the exception of one subject (D.N.) hyperventilation did not seem to be the major problem of the subjects wearing the protective mask and hood while working in a hot environment. In fact, the average values of respiratory variables studied were not markedly different in different experiments (Tables 4, 5 and 6).

Heat-induced hyperventilation has also been reported in environments sufficiently warm to promote sweating at a rate leading to dehydration of about five percent of the body weight (1). At an air temperature of 120°F, the ventilation rate of men at rest was constant until a water deficit of about 5% of the body weight had been attained. Both heat and dehydration were required to induce the hyperventilation because when the dyspneic subject cooled off sufficiently without drinking water, the hyperventilation disappeared.

However, in the present study, with the exception of the same subject as mentioned above (D.N.) a 5% weight loss was not obtained at the end of the four hour walk. The body was heating faster before a high degree of dehydration was attained. In these experiments, dehydration hardly approached a 5% level before the subjects reached a rectal temperature of 39.3°C or before intolerable limits of the heat storage index were attained.

3. Special Factors. The most conspicuous response in the experiments with the hood was an elevated forehead skin temperature (Figure 1). In the experimental series in which the mask and hood were worn in combination with shorts only (HN) to permit a large surface area for sweating, the rapid rise of body temperatures still occurred. One plausible explanation for this phenomenon is that the head and face of an individual working in the heat present important surfaces for heat exchange. This function is lost with hood wearing and impaired with mask wearing.

Subjective thermal discomfort appeared repeatedly with wearing of the mask and hood in the heat to the extent that the subject could no longer work. The face was consistently flushed and symptoms occurred frequently (Table 14) even though the rise in temperature was less than that seen in many athletes in strenuous competetive events. It appears that part of the mask discomfort may result from physiological or psychological effects of an abnormal situation.

There is some indication in the literature (2, 15) that the direct heating of the head area evokes thermoregulatory responses greater than would be predicted from the thermal increment alone.

Hardy and Oppel (15) remarked that as regards the sensitivity of the body to heat, the location of a particular skin area might be more important than the size of the area. They observed that the average sensitivity of the face per square centimeter to the nonpenetrating infra-red radiation was more than twice that of the forearm and hand. Bader and Macht (2) report that the German workers engaged in military research during war obtained some evidence that the face is a reflexogenous zone, the cooling of which induces marked vasoconstriction in the fingers. In their own experiments of heating different areas of the body by an infra-red bulb, Bader and Macht observed that at a DBT of 15°C, face-warming resulted in a significant rise in skin temperature of the left hand and also a significant increase in blood flow through the hand as measured by venous occlusion plethysmography. On the other hand, warming either the chest or the lower leg caused no significant changes in skin temperature or peripheral blood flow. At 23.5°C DBT, warming either the chest or face to 42 to 44°C for 90 minutes resulted in significant rises in skin temperature of the hands and toes. The increase in both skin temperature and blood flow was greater in face-heating than in chest-heating. However, in any of the warming experiments, no consistent changes in skin temperature of forearm, back, thigh or in rectal temperature were noted.

Thus subsequent to the main series of tests in the first phase of this study a few experiments of exploratory nature were conducted in the second phase. The design of the experiments in the second phase was influenced by the results of the experiments in the first phase.

III. Second Phase

A. Experiments on Heating of Localized Areas of the Body.

A series of experiments were conducted with a resting subject to investigate the effect of heating the head area as compared to an equivalent area in the trunk.

Heating was done either with a heating tape, a metal cup circulating hot air through it or by infra-red lamp and reflective heating coil. With the tape and the cup, the heating was restricted to a very small area while with the other methods the heating was done over a wider area. The sweating rate was recorded from the calf, thigh, arm and chest by the resistance hygrometry method (7).

At a dry bulb temperature of 30°C some increase in sweating was noted during the latter part of the heating period. This response was observed only in heating the forehead, back of the head, and dorsal neck only. There was no response in heating the abdomen. At a dry bulb temperature of 33°C, the increase in sweating was most marked in heating the neck, intermediate in heating the head and least in heating the abdomen (Figure 8). At dry bulb temperatures of 36°C and 40°C using an infra-red lamp and the heating coil, the difference in sweating rate between the two treatments disappeared and the responses reversed in magnitude in some cases.

The rectal temperature of the subject remained steady at 37.8°C It did not rise in any of these experiments, even though the heating of a localized area was continued for from 20 minutes to as long as one hour. However, at higher room temperatures, the temperature of the tympanic membrane, which was lower than the rectal temperature by 0.3°C at the beginning of the experiments, merged with the latter as the experiment progressed. The disappearance of the temperature gradient was faster in head heating than in abdomen heating.

B. Experiments with Mask and Hood on.

Different experiments were conducted with the subject wearing the mask, hood and shorts in a hot room.

At 36°C (DBT) an immediate rise in sweating from the limbs and the chest as recorded by the resistance hygrometry method (7) was observed when the mask and hood were worn by the subject. There was a similar decline in sweating when the mask and hood were taken off (Figure 9). These responses were less evident at a higher room temperature viz., 45°C.

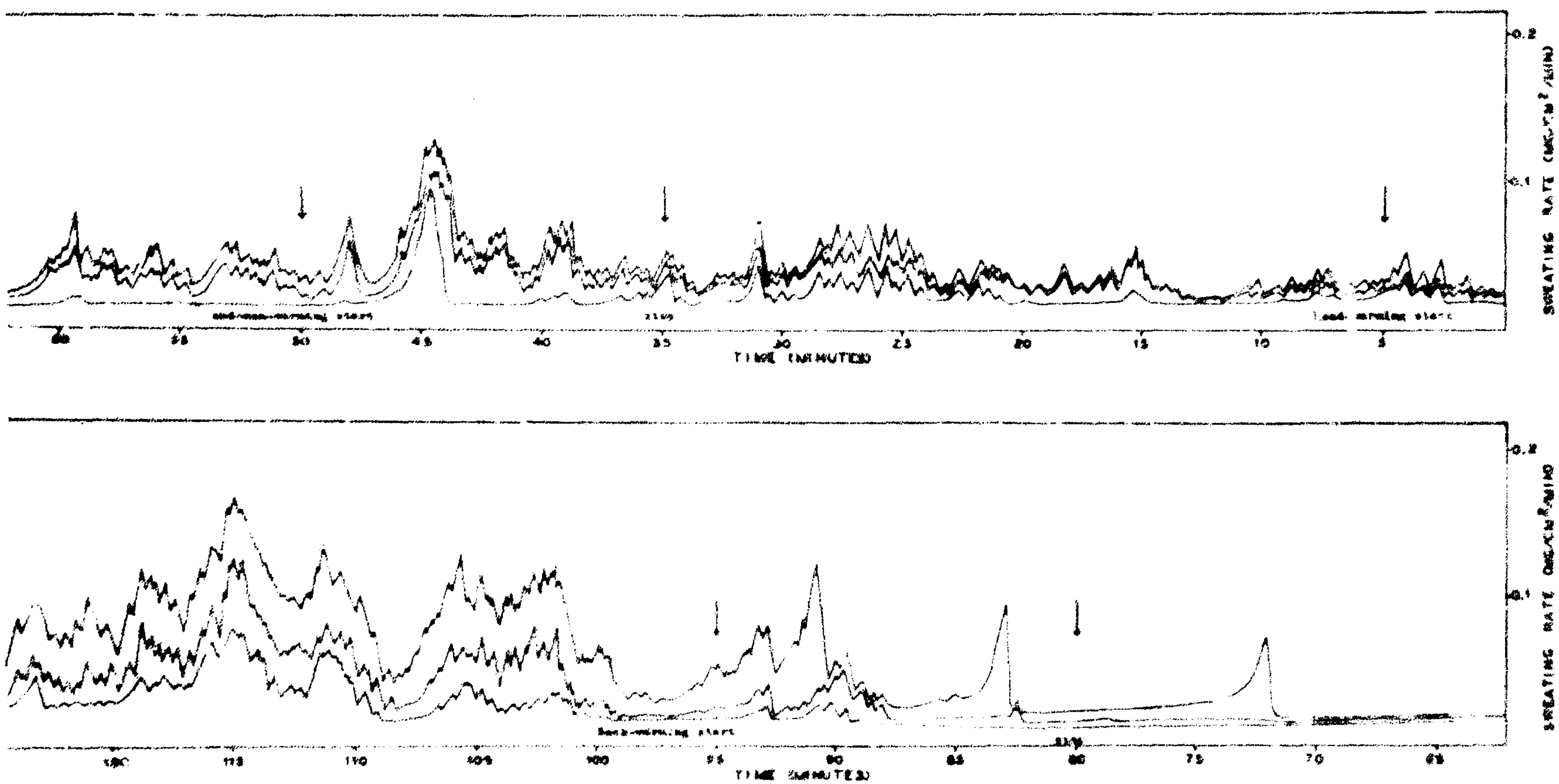


FIGURE 3. TRACING OF A RECORD SHOWING THE EFFECTS OF WARMING VARIOUS BODY AREAS ON SWEATING ACTIVITY.

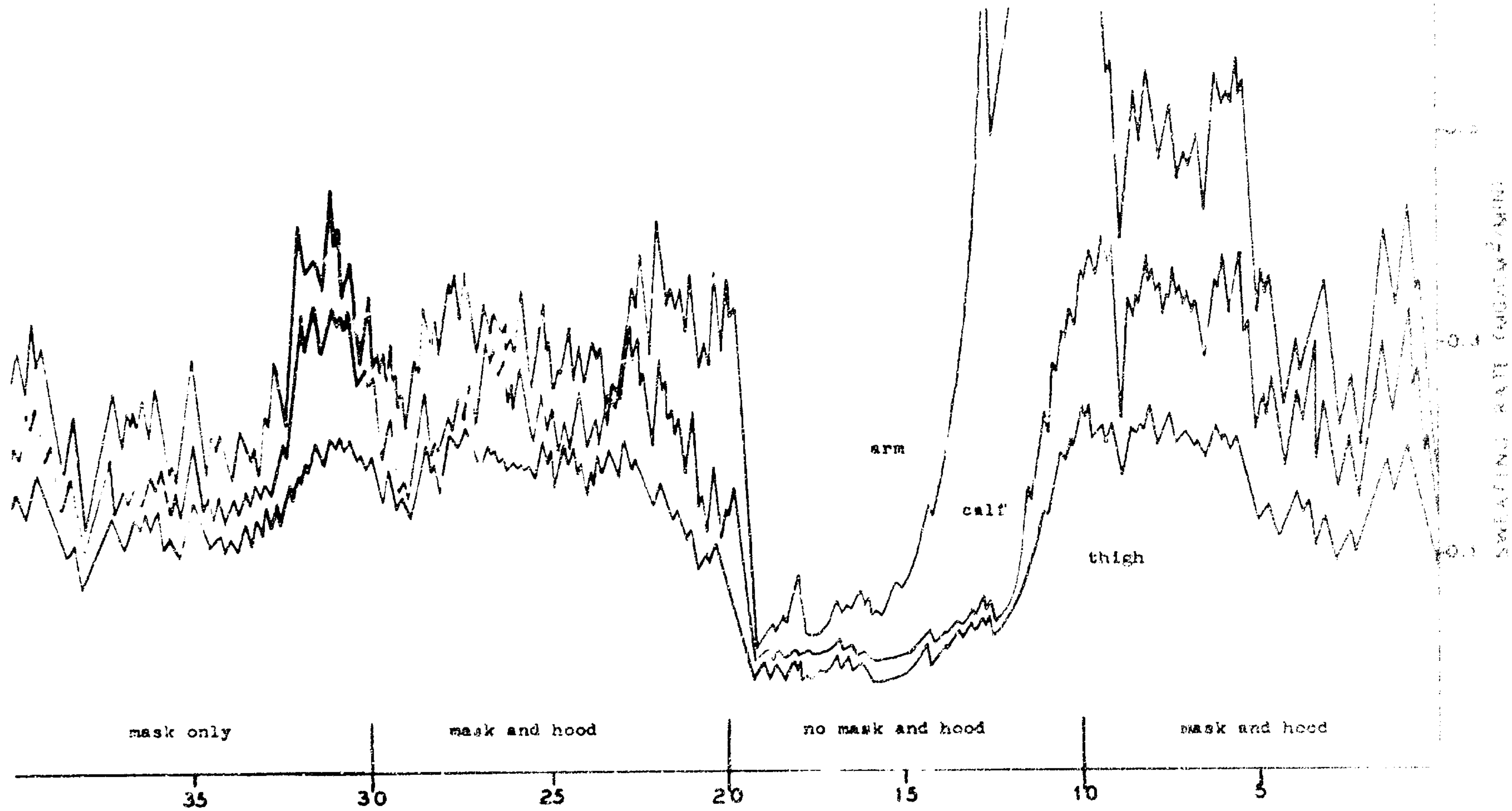


FIGURE 9. EFFECT OF COVERING THE HEAD WITH MASK AND HOOD ON SWEATING RATES OF THE ARM, THIGH AND CALF.

Attempts were made to ventilate the head area covered by the hood by circulating cold air under it through a perforated tubing. The temperature of the circulating air was about 5°C lower than the room temperature. The decline in sweating rate with circulating cold air was greater at 26°C (Figure 10) than at 37°C, or 45°C (Figure 11).

In another experiment at 35°C the ventilation of the subject when wearing the mask and hood (MH) was compared with that when the head was bare (B). The ventilation ratio (MH:B) was less than unity during rest. When the subject started working at 300 Kgm/min on a bicycle, the ratio approached one. This finding was similar to the results in earlier experiments on the treadmill in the first phase. The decrease in ventilation under the condition of greater respiratory resistance has also been reported by Silverman and his co-workers (22).

IV CONCLUSIONS

The M6 hood adds considerably to the heat stress of the subjects. Similarly, as compared to subjects with the heads kept uncovered, wearing the M17 protective mask also results in greater discomfort in the heat. The impairment in performance of men wearing the protective mask and hood is also evident when the rest of the body except for the loins is left bare and thus exposed to the environment for evaporative heat loss. However, at neutral ambient temperature the working ability of the subjects did not seem to be affected by wearing the entire set of the protective clothing, including the mask and hood.

Since a high body temperature seems to be essential for a rise in ventilation, further experiments need to be carried out to determine whether in subjects working in the heat, wearing mask and hood after the attainment of a rectal temperature of 39°C or more results in hyperventilation. The subjects in this series, however, all reported severe thermal discomfort prior to the attainment of any hyperventilation with only one exception. The attainment of a heat storage index above a tolerable level appeared to be the critical factor.

Another extension of this problem will be to conduct some well designed basic experiments to investigate whether an increase in skin temperature of the head area can be a specific cause of rise in body temperatures.

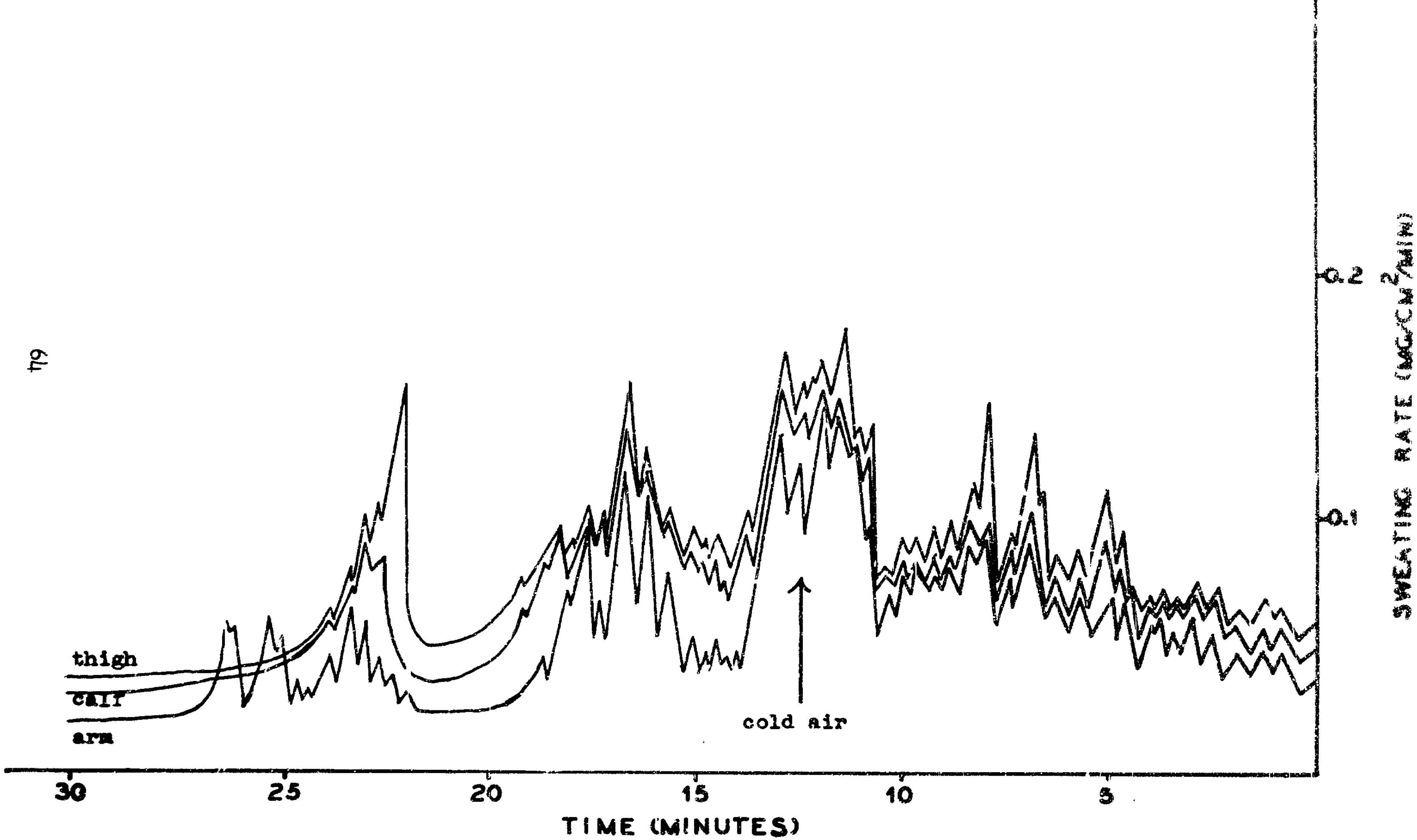


FIGURE 10. EFFECT OF CIRCULATING COLD AIR UNDER THE HOOD ON THE SWEATING ACTIVITIES OF THE DIFFERENT AREAS OF THE BODY AT A ROOM TEMPERATURE OF 26°C.

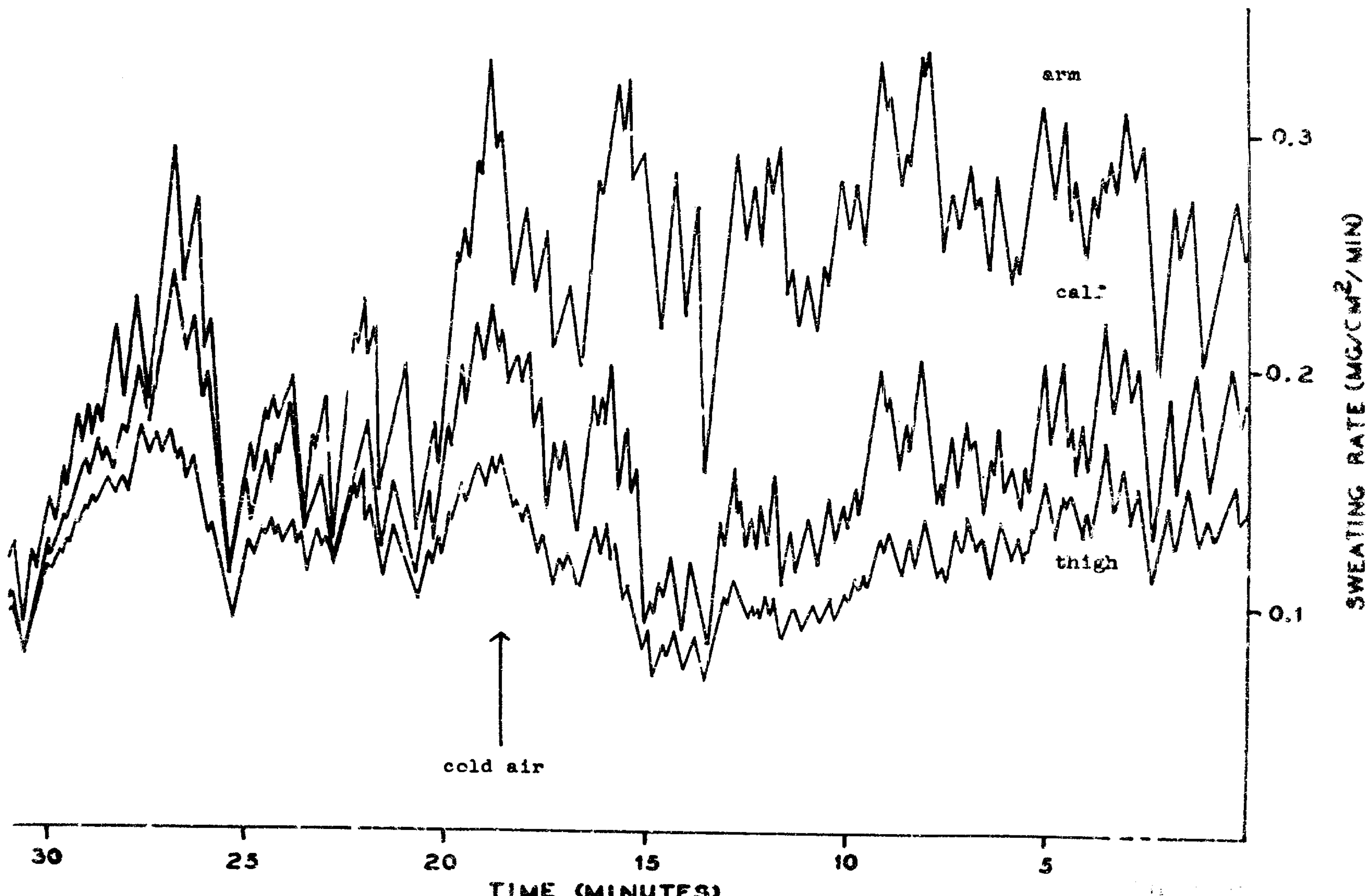


FIGURE 11. EFFECT OF CIRCULATING COLD AIR UNDER THE HOOD ON THE SWEATING ACTIVITIES OF THE DIFFERENT AREAS OF THE BODY AT A ROOM TEMPERATURE OF 37°C.

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APPENDIX

APPENDIX A

Table 1

't' Tests of Mean Values (walk and rest data combined)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Forehead temp.						Skin temp.					
1	NS	**	**	**	**	NS	NS	NS	**	**	**	NS
2		NS	**	**	**	NS		NS	**	**	**	NS
3			**	**	**	**			**	**	**	NS
4				**	**	**				NS	NS	**
5					NS	**					NS	**
6						**						**
	Mean body temp.						Nude Weight loss					
1	NS	NS	**	**	**	NS	NS	NS	*	*	*	NS
2		NS	*	*	*	NS		NS	*	*	*	NS
3			**	**	**	NS			*	**	**	NS
4				NS	NS	**				NS	NS	**
5					NS	**					NS	**
6						**						**
	Percent nude wt. loss						Clothed wt. loss					
1	NS	NS	**	**	**	NS	NS	NS	**	**	**	NS
2		NS	*	**	**	NS		NS	**	**	**	NS
3			**	**	**	NS			**	*	**	NS
4				NS	NS	*				NS	NS	**
5					NS	**					NS	**
6						*						**

*P < 0.05, **P < 0.01, NS = Not significant

Table 2

't' Tests of Mean Values (walk data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Forehead temp.						Skin temp.					
1	*	**	**	**	**	NS	NS	NS	**	**	**	NS
2		NS	**	**	**	NS		NS	**	**	**	NS
3			**	**	**	**			**	**	**	NS
4				**	**	**				NS	NS	**
5					NS	**					NS	**
6						**						**
	Mean body temp.						Heart rate					
1	NS	NS	**	**	**	NS	NS	NS	*	**	**	NS
2		NS	*	*	*	NS		NS	NS	*	*	NS
3			**	**	**	NS			NS	NS	NS	NS
4				NS	NS	*				NS	NS	NS
5					NS	*					NS	NS
6						**						NS

*P < 0.05, **P < 0.01, NS = Not significant

Table [illegible] (contd.)

t' Tests of Mean Values (walk data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Respiration rate						Minute volume					
1	NS	**	NS	NS	NS	NS	NS	NS	NS	NS	NS	*
2		*	NS	NS	NS	NS		NS	NS	NS	NS	**
3			**	**	NS	**			NS	NS	NS	**
4				NS	NS	NS				NS	**	NS
5					NS	NS					**	*
6						NS						**
	Mask pressure											
1	NS	NS	NS	NS	**	NS						
2		NS	**	*	**	NS						
3			**	NS	**	NS						
4				NS	NS	NS						
5					NS	NS						
6						NS						

*P $<$ 0.05, **P $<$ 0.01, NS = Not significant

Table 3

't' Tests of Mean Values (rest data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
		Forehead temp.						Skin temp.				
1	NS	**	**	**	**	NS	[illegible]	NS	**	**	**	NS
2		NS	**	**	**	NS		NS	**	**	**	NS
3			**	**	**	*			**	**	**	NS
4				**	**	**				NS	NS	**
6					*	**					NS	**
6						**						**
		Mean body temp.						Heart rate				
1	NS	NS	**	**	**	NS	NS	NS	*	*	NS	NS
2		NS	**	**	**	NS		NS	NS	NS	NS	NS
3			**	**	**	NS			*	*	NS	NS
4				NS	NS	*				NS	NS	NS
5					NS	*					NS	NS
6						*						NS

*$P < 0.05$, **$P < 0.01$, NS = Not significant

Table 3 (contd.)

't' Tests of Mean Values (rest data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Respiration rate						Minute volume					
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2		NS	NS	NS	NS	NS		NS	NS	NS	NS	NS
3			NS	NS	NS	NS			*	*	*	*
4				NS	NS	NS				NS	NS	NS
5					*	NS					NS	NS
6						NS						NS
	Partial tension of CO_2						Mask pressure					
1	NS	*	NS	NS	*	NS	NS	NS		NS	NS	NS
2		NS	NS	NS	*	NS		*	*	NS	NS	NS
3			*	NS	NS	NS			NS	NS	NS	NS
4				NS	**	NS				NS	NS	NS
5					*	NS					NS	NS
6						**						NS

*$P < 0.05$, **$P < 0.01$, NS = Not significant

Table 4

't' Tests among the Regression Coefficients (walk data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Forehead temp.						Rectal temp.					
1	NS	*	*	NS	**	NS	NS	**	**	**	**	*
2		**	**	*	**	NS		NS	**	**	**	NS
3			NS	NS	NS	*			**	**	**	NS
4				NS	NS	*				NS	NS	**
5					NS	NS					NS	**
6						**						**
	Skin temp.						Mean body temp.					
1	NS	NS	NS	NS	**	NS	NS	*	**	**	**	NS
2		NS	**	**	**	NS		NS	**	**	**	NS
3			NS	**	*	NS			**	**	**	NS
4				NS	NS	*				NS	NS	**
5					NS	*					NS	**
6						**						**

*P ⟨0.05, **P ⟨0.01, NS = Not significant

Table 4 (contd.)

't' Tests among the Regression Coefficients (walk data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Heart rate						Respiration rate					
1	NS	*	*	**	**	NS	NS	NS	NS	NS	NS	NS
2		NS	NS	NS	NS	NS		**	NS	NS	NS	NS
3			NS	NS	NS	**			NS	NS	*	NS
4				NS	NS	**				NS	NS	NS
5					NS	**					NS	NS
6						**						NS
	Minute Volume											
1	NS	*	*	*	**	*						
2		NS	NS	NS	NS	NS						
3			NS	NS	NS	NS						
4				NS	NS	NS						
5					NS	NS						
6						NS						

*P $<$0.05, **P $<$0.01, NS = Not significant

Table 5

't' Tests among the Regression Coefficients (rest data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Forehead temp.						Rectal temp.					
1	**	**	**	**	**	*	NS	*	**	**	**	**
2		**	*	*	**	NS		NS	**	**	**	NS
3			NS	NS	NS	**			**	**	**	NS
4				NS	NS	**				NS	NS	**
5					NS	**					NS	**
6						**						**
	Skin temp.						Mean body temp.					
1	NS	NS	**	**	**	NS	NS	*	**	**	**	*
2		NS	**	**	**	NS		NS	**	**	**	NS
3			*	NS	NS	NS			*	**	**	NS
4				NS	NS	**				NS	NS	*
5					NS	**					NS	**
6						**						**

*P < 0.05, **P < 0.01, NS = Not significant

Table 5 (contd.)

't' Tests among the Regression Coefficients (rest data only)

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Heart rate						Minute Volume					
1	NS	NS	**	**	**	NS	NS	NS	*	**	**	*
2		NS	**	**	**	NS		NS	NS	NS	**	NS
3			**	**	**	NS			NS	NS	NS	NS
4				NS	NS	**				NS	NS	NS
5					NS	**					NS	NS
6						**						*
	Mask pressure											
1	NS	**	**	NS	**	NS						
2		NS	*	NS	*	NS						
3			NS	NS	NS	NS						
4				NS	NS	*						
5					*	NS						
6						*						

*P $<$ 0.05, **P $<$ 0.01, NS = Not significant

Table 6

'**t' Tests of the Last Observations during Walk**

Expt. #	2	3	4	5	6	7	2	3	4	5	6	7
	Forehead temp.						Rectal temp.					
1	NS	NS	**	**	**	NS	NS	NS	*	*	*	NS
2		NS	NS	*	**	NS		NS	NS	NS	NS	NS
3			NS	NS	*	NS			NS	*	NS	NS
4				NS	NS	NS				NS	NS	NS
5					NS	NS					NS	NS
6						*						NS
	Skin temp.						Mean body temp.					
1	NS	NS	*	**	**	NS	NS	NS	**	**	**	NS
2		NS	*	**	**	NS		NS	**	**	**	NS
3			NS	*	**	NS			*	*	**	NS
4				NS	NS	NS				NS	NS	*
5					NS	*					NS	*
6						*						*

*P < 0.05, **P < 0.01, NS = Not significant

APPENDIX B

Table 1

Inter-correlation Matrix (walk data only)

Experiment #1

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.654 **	.588 **	.952 **	.675 **	-.332 **	.141	.314 **	.296 **
T_f		.530 **	.659 **	.501 **	-.289 *	-.121	.148	.070
T_s			.806 **	.673 **	-.442 **	.035	.238 *	.138
T_b				.700 **	-.409 **	.117	.319 **	.269 *
HR					-.232	-.123	-.103	-.126
pCO_2						-.039	-.497 **	-.375 **
f							.281 *	.539 **
$\dot{V}$								.718 **

*P < 0.05, **P < 0.01

Table 2

Inter-correlation Matrix (walk data only)

Experiment #2

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T[illegible]	.421 **	.818 **	.976 **	.566 **	-.454 **	.354 **	.259 *	.220
T_f		.409 **	.436 **	-.125	-.413 **	.516 **	.183	-.086
T_s			.923 **	.486 **	-.5[illegible]0 **	.268 *	.176	.064
T_b				.570 **	-.503 **	.338 **	.239 *	.172
HR					-.527 **	.087	.234	-.106
pCO_2						-.611 **	-.395 **	.162
f							.577 **	.267*
$\dot{V}$								.452**

*P $<$ 0.05, **P $<$ 0.01

Table 3

Inter-correlation Matrix (walk data only)

...riment #3

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.269 *	.583 **	.933 **	.401 *	-.131	.151	.042	.007
T_f		.411 **	.380 **	.301	.281 *	.189	-.222 *	-.333 **
T_s			.836 **	.602 **	-.052	.290 *	.044	-.270 *
T_b				.514 **	-.095	.226	.017	-.118
HR					-.151	.732 **	.359 *	.170
pCO_2						-.235 *	-.594 **	.123
f							.548 **	.124
$\dot{V}$								.375 **

*P <0.05, **P <0.01

Table 4

Inter-correlation Matrix (walk data only)

Experiment #4

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	-.036	.264 *	.761 **	.596 **	.068	.155	-.070	-.270 *
T_f		-.260 *	-.202	-.137	-.061	.174	-.016	.137
T_s			.827 **	.498 **	-.399 **	.330 **	.420 **	.272 *
T_b				.708 **	-.239 *	.309 **	.243 *	.035
HR					-.229	.020	.225	.183
pCO_2						-.021	-.513 **	-.325 **
f							.240 *	.325 **
$\dot{V}$								.707 **

*$P < 0.05$, **$P < 0.01$

Table 5

Inter-correlation Matrix (walk data only)

Experiment #5

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	-.002	.218 *	.676 **	.271 *	.122	.151	.065	.225
T_f		-.140	-.110	.057	-.204	.311 **	-.215	-.391 **
T_s			867 **	-.167	-.184	.024	.233 *	.380 **
T_b				.002	-.089	.095	.209	.408 **
HR					-.135	-.136	.142	.206
pCO_2						-.166	-.369 **	-.488 **
f							.095	.129
$\dot{V}$								.688 **

*$P < 0.05$, **$P < 0.01$

Table 6

Inter-correlation Matrix (walk data only)

Experiment #6

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	-.199	.100	.645 **	.431 **	-.168	.336 **	.274 *	-.300 *
T_f		.366 **	.173	-.41 **	.214 *	-.136 *	-.262 *	.236 *
T_s			.825 **	.197	.281 **	.002	.137	-.073
T_b				.416 **	.129	.194	.277 *	-.258 *
HR					-.072	.339 **	.409 **	-.321 *
pCO_2						-.533 **	-.230	-.134
f							.316	.009
$\dot{V}$								.211

*P $<$ 0.05, **P $<$ 0.01

Table 7

Inter-correlation Matrix (walk data only)

Experiment #7

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.391 **	.758 **	.974 **	.646 **	-.094	.160	.091	.289 *
T_f		.326 **	.393 **	.146	-.036	.127	.014	.071
T_s			.886 **	.537 **	-.125	.138	.104	.293 *
T_b				.654 **	-.110	.162	.101	.306 *
HR					.093	.301 *	.220	.098
pCO_2						-.411 **	-.153	-.233
f							.394 **	-.092
$\dot{V}$								.528 **

$*P < 0.05$, $**P < 0.01$

Table 8

Inter-correlation Matrix (rest data only)

Experiment #1

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.668 **	.764 **	.956 **	.762 **	-.031	.016	.514 **	.457
T_f		.739 **	.740 **	.495 **	.127	.050	.293	.199
T_s			.920 **	.666 **	.093	.090	.355 *	.321 *
T_b				.768 **	.023	.051	.474 **	.424 **
HR					.234	.247	.284	.521 **
pCO_2						.217	-.465 **	-.297 *
f							-.122	.003
$\dot{V}$								.570 **

*P <0,05, **P <0.01

Table 9

Inter-correlation Matrix (rest data only)

Experiment #2

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.524 **	.806 **	.955 **	.724 **	-.070	-.022	.444 **	.478 **
T_f		.682 **	.630 **	.550 **	-.366 **	.052	.275 *	.144
T_s			.945 **	.663 **	-.072	.081	.348 **	.297 *
T_b				.731 **	-.075	.027	.419	.411 **
HR					-.054	.072	.284 *	.214
pCO_2						-.313 *	-.397 **	.252
f							.086	-.318 *
$\dot{V}$								.581 **

*P $\langle$0.05, **P $\langle$0.01

Table 10

Inter-correlation Matrix (rest data only)

Experiment #3

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	-.026	.733 **	.938 **	.685 **	.084	.179	-.018	-.028
T_f		.169	.066	.182	.107	.195	-.079	.166
T_s			.923 **	.744 **	.05[illegible]	.257	.031	.020
T_b				.762 **	.080	.231	.002	-.011
HR					-.081	.320 *	.197	.384 *
pCO_2						-.532 **	-.551 **	-.293
f							.591 **	.385 *
$\dot{V}$								.695 **

$^{*}P < 0.05$, $^{**}P < 0.01$

Table 11

Inter-correlation Matrix (rest data only)

Experiment #4

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	-.075	.495 **	.070	.481 **	.219	.212	-.020	-.215
T_f		-.223 *	-.178	-.173	.179	.115	-.170	-.043
T_s			.885 **	.393 **	-.251	.092	-.046	-.150
T_b				.023	-.348 *	-.043	-.098	.005
HR					.062	.116	.176	.195
pCO_2						.040	-.514 **	-.395 **
f							-.099	-.330 *
$\dot{V}$								.645 **

$^*P < 0.05$, $^{**}P < 0.01$

Table 12

Inter-correlation Matrix (rest data only)

Experiment #5

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.023	.479 **	.837 **	.477 **	.331 **	-.221	-.186	.137
T_f		.125	.091	-.076	-.260	-.005	.131	.032
T_s			.881 **	.145	-.195	-.056	.151	.224
T_b				.343 *	.045	-.154	-.006	.212
HR					-.184	-.086	.082	.274
pCO_2						-.162	-.502 **	-.194
f							.047	-.420 **
$\dot{V}$								.235

*P $<$0.05, **P $<$0.01

Table 13

Inter-correlation Matrix (rest data only)

Experiment # 6

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.135	.579 **	.886 **	-.188	-.116	.046	.005	-.220
T_f		.035	.071	-.254	-.244	-.105	.185	.436 **
T_s			.891 **	-.127	.072	-.170	-.268 *	-.162
T_b				.034	-.070	-.025	-.177	-.232
HR					-.212	.344 *	.480 **	-.217
pCO_2						-.432 **	-.399 **	-.157
$\dot{V}$							.219	-.219
$\dot{R}_{pr}$								.295

*P $\langle$ 0.05, **P $\langle$ 0.01

Table 14

Inter-correlation matrix (rest data only)

Experiment #7

	T_f	T_s	T_b	HR	pCO_2	f	$\dot{V}$	P_m
T_r	.467 **	.748 **	.941 **	.757 **	.004	-.132	.112	.497 **
T_f		.566 **	.550 **	.431 **	.099	.122	.073	.290
T_s			.928 **	.649 **	.059	.004	.150	.384 *
T_b				.754 **	.032	-.072	.139	.473 **
HR					.152	-.218	.262	.452 **
pCO_2						-.179	-.251	-.070
f							-.047	-.722 **
$\dot{V}$								.333 *

*P < 0.05, **P < 0.01

APPENDIX C

(Raw data)

APPENDIX C

Subject Number	Initials
1	G.C.
2	S.T.
3	R.S.
4	R.B.
5	T.S.
6	R.H.
7	D.N.
8	L.C.
9	C.Z.
10	G.H.
11	B.K.

Code	Description	Unit
T_r	Rectal temperature	°C
T_f	Forehead skin temperature	°C
T_s	Mean skin temperature	°C
HR	Heart rate	beats/min
pCO_2	Partial tension of CO_2	mm Hg
f	Respiration rate	breaths/min
$\dot{V}$	Minute volume	liters(STPD)
T_b	Mean body temperature	°C
P_m	Mask pressure	cm H_2O

Data of the 5th hour experiment

Time (min)	Expt.#2	#4	#5	#6
		T_r		
260	38.6	37.6	37.9	37.3
280	38.7	37.9	38.0	37.6
300	39.1	37.9	37.7	37.7
		T_f		
260	35.4	34.7	32.4	32.9
280	35.3	35.0	31.8	32.8
300	36.6	34.9	32.1	31.9
		T_s		
260	36.5	34.1	33.4	33.3
280	36.4	34.5	33.5	33.2
300	36.8	35.0	34.0	33.7
		HR		
260	146	130	-	-
280	162	130	-	-
300	126	101	92	84
		pCO_2		
260	34.0	26.0	32.3	30.9
280	31.5	25.0	32.3	30.0
300	29.5	21.7	26.0	26.0

Time (min)	Expt.#2	#4	#5	#6
		f		
260	18	24	18	19
280	19	21	20	19
300	13	[illegible]	19	17
		$\dot{V}$		
260	19.55	18.80	17.16	20.49
280	19.73	17.90	17.52	21.56
300	7.82	8.23	8.12	8.19
		P_m		
260	3.5	2.5	2.5	2.8
280	3.8	2.5	2.5	2.8
300	2.5	1.3	1.5	1.5

T_r	T_f	T_s	HR	pCO_2	f	$\dot{V}$	T_b	P_u
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	0			
37.2000	33.1000	34.5700	0.0000	24.0000	15.0000	4.5360	36.4110	1.0300
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	40			
37.4000	36.8000	35.4200	0.0000	36.0000	17.0000	16.4220	36.0060	2.7300
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	60			
37.7000	36.8000	35.8900	94.0000	32.0000	14.0000	6.2040	37.1570	1.7800
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	80			
37.7000	37.0000	36.1500	0.0000	37.0000	18.0010	17.0250	37.2350	2.5000
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	20			
37.8000	36.5000	35.0700	0.0000	36.0000	18.0000	11.8960	36.5610	2.9500
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	100			
37.9000	37.0900	36.4100	0.0000	36.0000	19.0000	15.0740	37.4530	2.3000
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	120			
38.0000	37.5000	36.1700	98.0000	30.5000	13.0000	6.5590	37.4510	1.7500
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	140			
38.0000	37.2000	36.4100	0.0000	37.5000	17.0000	16.8480	37.3230	[illegible]
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	160			
38.3000	37.4000	36.6700	0.0000	37.0000	15.0000	14.2730	37.6110	[illegible]
EXPERIMENT NUMBER 1		SUBJECT NUMBER	1	TIME	180			
38.3000	37.5000	36.2200	112.0000	32.0000	15.0000	7.2680	37.0750	[illegible]

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EXPERIMENT NUMBER    1      SUBJECT NUMBER      1       TIME       200
    38.6000     37.6000     36.5000      0.0000     36.0000     19.0000     20.7510     37.9700     2.2900

EXPERIMENT NUMBER    1      SUBJECT NUMBER      1       TIME       220
    38.6000     37.6000     36.7500      0.0000     36.0000     19.0000     17.9120     38.0490     2.7900

EXPERIMENT NUMBER    1      SUBJECT NUMBER      1       TIME       240
    38.6000     37.9000     36.8200    132.0000     28.0000     18.0000      5.9550     38.0640     2.8600

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME         0
    37.0000     35.8000     34.8600     65.0000     23.1000     14.0000      7.3340     36.3500     1.[illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME        20
    36.8000     36.4000     35.7600    108.0000     29.7000     26.0000     25.1150     36.4000     3.7100

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME        40
    37.2000     36.3000     36.[illegible]    114.0000     30.2000     25.0000     25.6610     36.0270     3.[illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME        60
    37.4000     35.6000     36.6600     85.0000     27.2000     19.0000     10.0010     37.1700     1.[illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME        80
    37.6000      0.0000     36.4400    115.0000     31.0000     27.0000     25.6610     37.[illegible]     [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME       100
    28.1000      0.0000     36.5900    120.0000     30.2000     27.0000     26.5750     37.0470     [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      2       TIME       120
    37.8000      0.0000     36.7400    104.0000     28.0000     20.0000      4.7230     37.[illegible]     [illegible]
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EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      140
    38.0000       0.0000     36.0400     120.0000     28.8000     27.0000     25.1150     37.4120     3.9010

EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      160
    38.2000       0.0000     36.4800     120.0000     28.8000     30.0000     23.6510     37.6840     3.9000

EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      180
    37.9000      35.6000     36.7100     113.0000     26.0000     16.0000      7.8160     37.5430     1.9000

EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      200
    38.3000      37.3000     36.0400       0.0000     28.0000     28.0000     26.2180     37.6220     4.5000

EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      220
    38.4900      37.3000     36.7800       0.0000     28.0000     27.0000     27.6610     37.9140     4.5000

EXPERIMENT NUMBER    1        SUBJECT NUMBER      2      TIME      240
    38.1000      37.6000     36.6400     112.0000     26.0000     19.0000      6.3620     37.6680     2.7[illegible]

EXPERIMENT NUMBER    1        SUBJECT NUMBER      3      TIME        0
    37.3000      35.9000     34.8900     132.0000     32.8000     30.0000      5.0910     36.9770     1.8000

EXPERIMENT NUMBER    1        SUBJECT NUMBER      3      TIME       20
    37.3000      35.9000     33.8900       0.0000     3[illegible].2380     32.0000     26.5440     36.8770     3.[illegible]

EXPERIMENT NUMBER    1        SUBJECT NUMBER      3      TIME       40
    37.7000      35.9000     36.0900       0.0000     35.2000     32.0000     21.0780     37.2[illegible]     4.[illegible]

EXPERIMENT NUMBER    1        SUBJECT NUMBER      3      TIME       60
    37.9000      37.1000     36.1600       0.0000     30.8000     34.0000      7.3740     37.37[illegible]     [illegible]
```

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 80
38.1000 37.5000 35.4600 0.0000 35.2080 34.0000 21.4220 37.3080 4.7000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 100
38.3000 38.0000 35.4900 0.0000 36.0040 38.0000 21.0700 37.4570 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 120
38.3000 38.0000 36.1100 99.0000 30.8080 22.0000 6.8470 37.6430 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 140
38.5000 38.2000 35.6400 0.0000 34.5080 22.0000 20.7190 37.6420 4.8000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 160
38.6000 0.0000 35.6400 0.0000 34.5080 22.0000 20.7190 37.7120 4.8000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 180
38.6000 0.0000 36.4400 120.0000 30.0080 12.0000 5.9690 37.9520 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 200
38.9000 0.0000 35.9400 0.0000 36.6080 21.0000 20.3680 38.0180 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 220
39.3000 0.0000 35.4100 0.0000 34.0080 24.0000 20.8950 38.1380 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 3 TIME 240
39.2000 0.0000 36.9900 150.0000 30.0080 14.0000 9.4560 [illegible] [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 4 TIME 0
37.4000 35.3000 33.6000 75.0000 23.8080 17.0020 5.7990 [illegible] [illegible]

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EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      20
   37.2800     35.8000      35.2200    116.0000     30.0000   18.0000     17.4020     36.6060      2.7900

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      40
   37.8000     35.8000      35.9200    132.0000     28.5000   20.0000     20.3910     37.2360      3.2900

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      60
   38.8000     36.9000      36.4700     96.0000     23.5000   16.0000      7.9090     37.5410      2.8800

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      80
   38.3000     37.4000      36.5600    156.0000     25.5000   22.0000     18.9840     37.7780      3.4000

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      100
   38.7000     38.1000      36.7500    156.0000     25.0000   22.0000     21.9730     38.1150      3.3100

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      120
   38.7000     38.3000      37.0700    108.0000     23.0000   19.0000      5.9750     38.2110      1.7520

EXPERIMENT NUMBER    1      SUBJECT NUMBER     4      TIME      140
   38.9000     38.4000      37.3700    180.0000     25.5000   23.0000     23.1540     38.4410      4.[illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER     5      TIME      0
   37.6000     31.4000      34.2300     84.0000     25.1000   17.0000      7.2990     36.9090      1.[illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER     5      TIME      20
   37.7000     37.9000      35.9600    126.0000     33.3000   20.0000     19.9920     37.1790      [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER     5      TIME      40
   37.9000     37.7000      36.1500    126.0000     31.7000   22.0000     16.7440     37.3790      [illegible]
```

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 60
37.7000 37.6000 36.2700 25.0000 27.9000 20.0000 7.2990 37.2710 8.9680

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 80
38.0000 37.7000 36.3000 166.0000 30.8000 17.0000 21.7340 37.[illegible]900 2.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 100
38.3000 37.6000 36.6600 168.0000 23.9000 17.0000 29.3960 37.9400 3.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 120
38.2000 37.6000 36.9700 104.0000 22.4000 21.0000 7.4780 37.8310 2.8950

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 140
38.3000 37.8000 36.7200 0.0000 25.1000 25.0000 23.8720 37.9640 4.7000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 160
36.7000 36.4600 37.1000 0.0000 25.1000 27.0000 26.7230 38.2200 4.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 180
38.4000 36.2000 37.1500 132.0000 21.8000 25.0000 5.6960 38.[illegible] 3.7[illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 5 TIME 200
38.8000 38.2000 37.2600 0.0000 27.9000 0.0000 22.8030 30.3380 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 0
37.6000 36.8000 35.4100 88.0000 21.1000 15.0000 6.3810 36.9430 1.[illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 20
37.6200 37.8000 36.7400 132.0000 27.2000 25.0000 17.7300 37.3620 4.[illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 40
38.1000 37.3000 37.3100 144.0000 26.6000 29.0000 18.6220 37.8630 3.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 60
38.0000 37.4000 37.1400 184.0000 23.8000 16.0000 6.3810 37.7420 1.3900

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 80
38.5000 37.7000 37.4400 0.0000 27.9000 28.0000 18.9770 38.1820 4.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 100
38.8000 38.0000 37.8500 0.0000 26.4000 27.0000 20.2180 38.5180 4.6500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 120
39.0000 36.2000 38.0100 128.0000 23.8000 16.0000 10.8160 38.0430 1.5000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 6 TIME 140
39.0000 38.0000 37.9600 0.0000 25.1000 28.0000 20.0280 38.6000 4.2900

EXPERIMENT NUMBER 1 SUBJECT NUMBER 7 TIME 0
37.4000 35.6000 35.3100 96.0000 23.0000 10.0000 11.0590 36.7730 3.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 7 TIME 20
37.3000 35.7000 35.9900 186.0000 28.9000 30.0000 29.2010 36.9070 6.7000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 7 TIME 40
37.0000 37.4000 37.1400 186.0000 29.4000 16.0000 20.3700 37.0700 [illegible]

EXPERIMENT NUMBER 1 SUBJECT NUMBER 7 TIME 60
38.1000 37.8000 36.4900 182.0000 25.1000 13.0000 18.2020 37.4170 [illegible]

```
EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       80
     38.4000     38.1000      36.7900    132.0000      29.4000    18.0000     30.2630     77.9176     5.0000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       100
     38.3000     37.8000      36.9600    132.0000      27.2000    22.0000     32.3870     38.0390     5.3000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       120
     38.4000     37.8000      36.8400    128.0000      23.8000    12.0000     14.3330     36.0780     2.2500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       140
     38.0000     37.8000      36.7100      0.0000      26.4000    27.0000     32.2100     38.1730     5.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       160
     38.7000     37.0000      37.0100      0.0000      26.4000    24.0000     31.1480     38.1930     5.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       180
     38.0000     38.3000      36.8400    120.0000      23.8000    10.0000     12.3860     38.2183     3.0000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       200
     38.9000     38.2000      36.8400      0.0000      25.9000    25.0000     31.9020     38.2020     [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       220
     39.3000     38.8000      36.9400      0.0000      23.0000    24.0000     34.1570     38.9000     [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      7       TIME       240
     39.1000     37.8000      36.9600    120.0000      16.0000    21.0000     10.9010     38.9000     [illegible]

EXPERIMENT NUMBER    1      SUBJECT NUMBER      8       TIME       0
     37.8000     34.6000      35.1600    110.0000      25.8000    21.0000      8.4030     37.0000     [illegible]
```

```
EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME     20
   37.9000    36.8000    36.9100     0.0000    37.4000    33.0000    25.4600    37.4830     5.7500

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME     40
   38.2000    36.4000    36.1900     0.0000    38.2000    35.0000    25.6360    37.5970     5.0000

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME     60
   38.7000    37.2000    37.5300   124.0000    32.1000    22.0000     7.1900    38.3490     3.0000

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME     80
   38.6000    37.4000    36.9900     0.0000    34.0000    33.0000    24.9340    38.1170     5.2500

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME    100
   38.7000    37.4000    36.9900     0.0000    34.0000    36.0000    24.9340    38.1870     5.7500

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME    120
   38.9000    36.2000    36.2600   133.0000    30.0000    22.0000    10.0960    37.8200     3.0000

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME    140
   38.5000    36.3000    34.6300     0.0000    29.2000    36.0000    25.2850    37.3300     5.0000

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME    160
   38.8000    36.8000    37.1600     0.0000    29.2000    35.0000    30.3770    38.3000     [illegible]

EXPERIMENT NUMBER   1     SUBJECT NUMBER      8      TIME    180
   38.9000    37.0000    36.0100   132.0000    23.7000    23.0000    12.9930    38.2730     3.0000

EXPERIMENT NUMBER   1     SUBJECT NUMBER      9      TIME      0
   37.0000    35.0000    34.6900    76.0000    19.6000    19.0000     9.7730    36.0970     [illegible]
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EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 20
37.6800 36.6000 36.3400 0.0000 32.7000 24.0000 28.0060 37.2370 4.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 40
38.2000 37.2000 36.6400 135.0000 34.0000 24.0000 27.9090 37.7380 3.750

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 60
38.2000 37.3000 36.8900 104.0000 29.7000 21.0000 8.8040 37.8870 2.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 80
38.4000 37.0000 36.8600 0.0000 30.7000 28.0000 27.3750 38.0700 4.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 100
38.6000 38.0000 36.9620 0.0000 30.7000 29.0000 26.1310 38.1000 4.000

EXPERIMENT NUMBUR 1 SUBJECT NUMBER 9 TIME 120
38.4000 37.4000 36.9400 116.0000 26.5000 24.0000 9.2490 38.1000 8.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 140
38.6000 37.8000 36.8900 0.0000 28.0000 26.0000 29.8640 38.0070 4.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 160
38.7000 38.0000 37.1100 126.0000 27.4000 24.0000 27.1970 38.2255 4.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 180
38.7000 38.6800 37.2900 120.0000 22.6000 21.0000 15.1070 38.0770 2.000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 9 TIME 200
38.9000 38.0000 37.3100 0.0000 26.5000 28.0000 31.9900 38.4230 4.000

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EXPERIMENT NUMBER    1      SUBJECT NUMBER       9       TIME     220
    39.3000     38.4000     37.6900     0.0000     26.5000     24.0000     35.7320     38.8170     4.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER       9       TIME     240
    39.3000     38.2000     37.6400     0.0000     21.3000     16.0000     16.7070     38.8880     2.1500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME       0
    37.3000     32.7000     34.4200    76.0000     25.0050     17.0000      8.2210     36.4340     1.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME      20
    37.3000      9.0000     35.8500   120.0000     30.7000     24.0000     23.35?0     36.8650     3.0000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME      40
    37.4000      0.0000     36.0700     0.0000     32.1000     26.0000     23.7050     37.0010     3.3000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME      60
    37.4000     36.?000     36.1200     0.0000     28.0000     19.0000      7.6640     37.0160     5.8100

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME      80
    37.0000     35.5900     35.5000     0.0000     32.9000     25.0000     25.5740     37.1100     5.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME     100
    38.0000     35.9000     34.7000     0.0000     33.7000     25.0000     29.3940     37.6100     3.7500

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME     120
    37.6000     34.4000     34.1700   180.0000     30.7000     19.0000      6.5330     37.1714     3.0000

EXPERIMENT NUMBER    1      SUBJECT NUMBER      10       TIME     140
    38.1000     39.3000     ??.0700   114.0000     32.9000     28.0000     ??.4800     37.4010     3.5000
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EXPERIMENT NUMBER 1 SUBJECT NUMBER 10 TIME 160
38.5000 3[illegible].9000 36.3900 0.0000 32.1050 26.0000 26.8270 37.8670 3.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 10 TIME 180
38.0000 37.3000 36.2900 0.0000 28.0000 20.0000 8.2210 37.4070 1.5000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 10 TIME 200
38.1000 38.1000 36.0400 0.0000 34.8000 24.0000 27.1050 37.4020 3.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 10 TIME 220
36.9000 38.6000 36.7600 0.0000 32.1000 27.0000 27.1050 38.2500 3.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 10 TIME 240
38.7000 38.5000 36.7300 0.0000 31.4000 0.0000 10.7210 38.1090 1.5000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 11 TIME 0
37.8000 36.0000 33.4700 78.0000 25.8000 17.0000 5.2440 36.5010 1.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 11 TIME 20
37.8000 36.9000 36.6000 124.0000 33.5080 22.[illegible] 18.8700 37.4400 2.7500

EXPERIMENT NUMBER 1 SUBJECT NUMBER 11 TIME 40
37.8000 36.9000 36.6000 138.0000 [illegible]6.1000 22.0000 14.5000 37.4490 3.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 11 TIME 60
38.1000 37.5000 36.9500 [illegible]1000 30.8000 21.0000 6.2930 37.7550 1.0000

EXPERIMENT NUMBER 1 SUBJECT NUMBER 11 TIME 80
38.4000 37.7000 37.1300 152.0000 35.5000 26.0000 18.0040 38.8190 2.1000

EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 100					
38.8000	37.9000	37.4900	150.0000	33.1000	27.0000	20.4019	38.4871	[illegible]	
EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 120					
38.9000	37.9000	37.5300	110.0000	29.3000	16.0000	4.8176	30.6190	1.8000	
EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 140					
38.9000	37.4000	37.5300	180.0000	29.3000	27.0000	[illegible]	40.4000	2.0000	
EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 160					
39.3000	37.7000	37.8900	180.0000	31.6000	26.0000	21.1510	38.8770	3.0000	
EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 180					
39.3000	37.9000	38.1400	124.0000	29.3000	19.0000	8.0410	38.9580	1.1000	
EXPERIMENT NUMBER 1		SUBJECT NUMBER 11		TIME 200					
39.1000	37.6000	37.6300	180.0000	30.1000	27.0000	22.3740	38.6504	[illegible]	
EXPERIMENT NUMBER 2		SUBJECT NUMBER 1		TIME 0					
37.3000	35.5000	34.7000	72.0000	28.0000	15.0000	4.0390	36.6680	2.0000	
EXPERIMENT NUMBER 2		SUBJECT NUMBER 1		TIME 20					
37.3000	34.3000	35.8500	119.0000	34.5000	15.0000	15.3400	36.0698	[illegible]	
EXPERIMENT NUMBER 2		SUBJECT NUMBER 1		TIME 40					
37.7000	34.3000	36.1000	118.0000	34.5000	18.0000	18.3870	37.2800	[illegible]	
EXPERIMENT NUMBER 2		SUBJECT NUMBER 1		TIME 40					
37.4000	35.3000	35.6000	90.0000	29.9000	16.0000	6.8730	37.1400	[illegible]	

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EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       80
   37.6000     34.5000     36.0200   126.0000      34.0080    18.0000     19.9080     37.2660     4.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       100
   38.0000     34.7000     36.3200   138.0000      33.5080    17.0000     20.0050     37.4960     4.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       120
   38.0000     36.3000     35.8100   119.0000      30.0080    14.0000      7.2840     37.3430     2.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       140
   38.`000     35.0000     36.2500   138.0000      33.5080    18.0000     19.9520     37.6190     4.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       160
   38.5000     35.0000     36.5200   144.0000      33.5080    20.0000     19.1960     37.9060     4.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       180
   38.3000     35.7000     36.3000   117.0000      30.0080    12.0000      7.4620     37.7080     2.7500

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       200
   38.5000     35.2000     36.4700   147.0000      31.5080    20.0000     19.0190     37.8960     3.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       220
   38.6000     35.0000     36.7200   153.0000      34.0080    19.0000     19.7300     38.0300     4.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      1      TIME       240
   38.2000     36.2000     36.3700   113.0000      29.9080    15.0000      7.1060     37.6510     2.0000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      2      TIME       0
   37.1000     36.0000     35.4100    80.0000      23.2080    21.0000      6.0780     36.9900     3.4000
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EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME       20
    37.0000      36.7000     35.7900     116.0000       31.5080     28.0000       25.5080       36.4370       4.4000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME       40
    37.4000      35.9000     35.7900     116.0000       33.0080     27.0000       25.3780       36.9170       4.8900

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME       60
    37.7000      35.6000     36.0400      86.0000       26.0080     20.0000        8.7950       37.8020       8.0000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME       80
    37.7000      35.2000     35.4100       0.0000       32.2080     28.0000       25.3280       37.0130       3.0000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      100
    38.0000      35.9000     35.8100       0.0000       33.0080     30.0000       23.7110       37.3480       4.0000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      120
    38.0000      34.0000     35.4100      96.0000       27.3080     18.0000        7.8300       37.8880       1.7800

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      140
    38.0000      36.4000     35.5300     125.0000       30.0080     30.0000       25.1480       37.8800       4.9000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      160
    38.0000      37.0000     35.8450     125.0000       30.0080     33.0000       24.8780       37.3020       4.1000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      180
    38.0000      36.0000     35.7400      92.0000       26.5080     19.0000        7.1780       37.5000       8.7000

EXPERIMENT NUMBER    2      SUBJECT NUMBER        2        TIME      200
    38.0000      36.7000     35.3400     155.0000       30.0080     33.0000       24.6990       37.8000       [illegible]
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EXPERIMENT NUMBER	2	SUBJECT NUMBER	2	TIME	220			
38.2000	36.3000	35.8100	140.0000	30.0000	30.0000	24.6090	37.4830	4.5000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	2	TIME	240			
38.2000	35.8000	35.7600	132.0000	30.0000	18.0000	7.3580	37.4680	2.9500
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	0			
37.2000	36.6000	35.2100	82.0000	26.0000	17.0000	4.8000	36.6030	0.0000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	20			
37.2000	35.1000	35.4600	0.0000	36.1000	17.0000	18.3280	36.6780	3.5000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	40			
37.4000	34.2000	35.5400	0.0000	37.7000	22.0000	19.9300	36.9420	3.7000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	60			
37.6000	34.4000	35.9600	84.0000	30.8000	21.0000	6.7580	37.1080	1.7500
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	80			
37.6000	34.5000	35.6900	0.0000	37.7000	18.0000	18.6840	37.0270	4.0000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	100			
37.7000	35.1000	35.8100	0.0000	36.1000	24.0000	19.7520	37.1330	4.0000
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	120			
37.8000	33.9000	36.1300	86.0000	27.9000	20.0000	8.1020	37.2990	1.7500
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	140			
37.8000	34.9000	35.3500	0.0000	36.1000	22.0000	20.1080	37.0650	3.7500

EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	160					
37,9030	33,7000	35,6600	0,0000	35,5000	23,0000	19,5740	37,2280	4,2500		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	180					
37,9000	0,0000	35,8600	120,0000	29,3000	16,0000	5,8680	37,2840	2,3500		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	200					
37,9000	35,0000	35,6100	0,0000	35,5000	24,0000	19,0400	37,2[illegible]30	3,7500		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	220					
37,9000	35,0000	35,6100	0,0000	35,5000	25,0000	19,0400	37,2130	4,8500		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	3	TIME	240					
38,0000	35,9000	35,9100	116,0000	29,3000	21,0000	6,0460	37,3730	2,0000		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	4	TIME	0					
37,2000	34,5000	33,3100	78,0000	21,6000	18,0000	6,8330	36,0330	1,5000		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	4	TIME	20					
37,4000	34,3000	35,4600	124,0000	30,0000	21,0000	19,0000	36,8180	2,7900		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	4	TIME	40					
37,9000	35,1000	36,3600	154,0000	29,2000	23,0000	19,0000	37,4380	3,2890		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	4	TIME	60					
38,1000	36,1000	36,7900	96,0000	27,1000	10,0000	7,5540	37,7070	3,4000		
EXPERIMENT NUMBER	2	SUBJECT NUMBER	4	TIME	80					
38,3000	34,5000	36,7900	156,0000	28,5000	23,0000	20,1610	37,8470	[illegible]		

EXPERIMENT NUMBER 2 SUBJECT NUMBER 4 TIME 100
38.9000 34.3000 37.2500 176.0000 28.5000 21.0000 21.4210 38.1250 3.7500

EXPERIMENT NUMBER 2 SUBJECT NUMBER 4 TIME 120
38.5000 36.4000 37.6100 108.0000 25.8000 13.0000 9.5350 38.2330 2.7500

EXPERIMENT NUMBER 2 SUBJECT NUMBER 4 TIME 140
38.9000 34.6000 37.6600 0.0000 26.4000 24.0000 22.6020 38.9200 3.7500

EXPERIMENT NUMBER 2 SUBJECT NUMBER 4 TIME 160
39.9000 35.9000 38.3900 0.0000 28.5000 26.0000 26.1040 39.1670 4.0000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 4 TIME 180
39.9000 37.1000 38.4900 140.0000 25.0000 19.0000 10.9750 39.1970 3.0000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 5 TIME 0
37.3000 35.6000 33.7000 89.0000 27.9000 16.0000 7.1630 36.2200 1.9000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 5 TIME 20
37.3000 35.4000 35.9400 132.0000 34.6300 22.0000 18.2000 36.7720 3.0000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 5 TIME 40
37.8000 35.4000 35.9500 132.0000 34.1000 22.0000 19.1760 37.2050 3.0000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 5 TIME 60
37.6000 35.9000 35.9200 182.0000 29.3000 19.0000 6.6290 37.0900 1.0000

EXPERIMENT NUMBER 2 SUBJECT NUMBER 5 TIME 80
37.8000 35.4000 36.2000 129.0000 32.1000 23.0000 19.7140 37.3200 3.0000

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EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       100
    38.1000       35.4000        36.5900      129.0000       34.1080     23.0000        20.2520        37.6470        3.5500

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       120
    38.3000       35.6000        36.7200      120.0000       27.9050     21.0000         7.5220        37.8260        2.0000

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       140
    38.2000       37.5000        36.8900      126.0000       32.1380     23.0000        18.9970        37.8070        3.2500

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       160
    38.4000       37.8000        37.0700      126.0000       32.9080     27.0000        19.1760        38.0010        3.7500

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       180
    38.3000       36.7000        37.1500      126.0000       27.9080     21.0000         6.9840        37.9550        1.7500

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       200
    38.5000       37.6000        37.3600        0.0000       32.1080     26.0000        22.0450        38.1580        3.5000

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       220
    38.8000       37.8000        37.4700        0.0000       32.1080     26.0000        18.2800        38.4010        3.0000

EXPERIMENT NUMBER    2          SUBJECT NUMBER         5      TIME       240
    38.5000       37.1000        37.4000      138.0000       24.3000     21.0000         6.9840        38.1700        1.7500

EXPERIMENT NUMBER    2          SUBJECT NUMBER         6      TIME         0
    37.4000       36.5000        35.4400       78.0000       22.8080     15.0000         6.6480        36.8120        [illegible]

EXPERIMENT NUMBER    2          SUBJECT NUMBER         6      TIME        20
    37.5000       35.0000        36.0900        0.0000       28.1080     21.0000        15.5570        37.0770        [illegible]
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EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 40						
37.5000	35.0000	36.2900	0.0000	26.9000	28.0000	18.5290	37.1370	3.6000		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 60						
37.9000	36.1000	35.9100	84.0000	19.3000	17.0000	6.4680	37.3030	1.2500		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 80						
37.9000	35.1000	36.4900	0.0000	26.9000	28.0000	17.6550	37.4770	3.2500		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 100						
38.2000	35.5000	36.9700	0.0000	26.1000	31.0000	19.0530	37.8310	3.8800		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 120						
38.3000	36.5000	36.4600	180.0000	24.0000	18.0000	6.4680	37.7480	1.4000		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 140						
38.1000	36.1000	36.7300	0.0000	27.4000	25.0000	16.6060	37.6090	3.7500		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 160						
38.9000	36.5000	37.2300	0.0000	26.9000	27.0000	17.0040	38.1190	3.8800		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 180						
38.6000	37.2000	37.0300	120.0000	22.1000	20.0000	6.6420	38.1290	1.4000		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 200						
38.5000	36.6000	37.2300	0.0000	26.1000	27.0000	18.3540	38.1190	3.6000		
EXPERIMENT NUMBER 2		SUBJECT NUMBER 6		TIME 220						
38.5000	36.6000	37.2300	0.0000	26.1000	27.0000	18.3540	38.1190	3.6000		

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EXPERIMENT NUMBER    2      SUBJECT NUMBER      6       TIME      240
    38.9800     36.4000     37.2900    144.0000     26.1000     16.0000      6.8170     38.4170      1.500

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME        0
    37.5000     35.2000     35.1400     76.0900     25.5000     13.0000     10.1610     36.7980      2.300

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME       20
    37.9000     34.3000     36.2100      0.0000     34.5000     21.0000     30.4840     37.1130      6.000

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME       40
    37.9000     35.5000     36.4400      0.0000     33.3000     24.0000     27.8560     37.4620      5.000

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME       60
    38.1000     35.4000     36.7400    127.0000     32.0000     15.0000     10.5110     37.6920      2.500

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME       80
    38.1000     35.5000     36.4400      0.0000     32.8000     22.0000     28.0310     37.6820      6.000

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME      100
    38.3000     35.5000     36.8300      0.0000     33.3000     25.0000     28.0310     37.8590      5.500

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME      120
    38.4000     34.3000     36.9400    120.0000     32.0000     10.0000      9.4600     37.9680      3.000

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME      140
    38.9000     35.1000     36.5900      0.0000     32.0000     24.0000     26.9800     37.9270   [illegible]

EXPERIMENT NUMBER    2      SUBJECT NUMBER      7       TIME      160
    38.7000     35.1000     36.9100      0.0000     30.9850     25.0000     32.4110     38.[illegible]   [illegible]
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EXPERIMENT NUMBER    2        SUBJECT NUMBER       7        TIME       180
    38,7000     36,8000     37,0400   124,0000      24,1000    12,0000     15,4170     38,2020     4,00

EXPERIMENT NUMBER    2        SUBJECT NUMBER       7        TIME       200
    38,8000     35,8000     36,6400     0,0000      29,9000    26,0000     28,9070     38,1520     5,00

EXPERIMENT NUMBER    2        SUBJECT NUMBER       7        TIME       220
    38,7000     35,8000     36,8400     0,0000      27,0000    29,0000     30,3190     38,1420     6,25

EXPERIMENT NUMBER    2        SUBJECT NUMBER       7        TIME       240
    39,0000     37,5000     37,0600   124,0000      20,2000    14,0000     21,3740     38,4180     5,50

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME         0
    37,5000     34,2000     34,0400    92,0000      23,1000    21,0000     10,0430     34,4620     2,50

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME        20
    37,9000     35,0000     36,4600   144,0000      28,7000    34,0000     32,4800     37,1000     5,75

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME        40
    38,0000     35,7000     36,4600     0,0000      29,3000    36,0000     29,4290     37,9300     5,00

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME        60
    40,1000     37,1000     36,6100   104,0000      23,7000    18,0000     10,4080     37,4530     2,00

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME        80
    38,1000     35,7000     36,5100     0,0000      30,0000    31,0000     28,4900     37,0230     5,75

EXPERIMENT NUMBER    2        SUBJECT NUMBER       8        TIME       100
    38,4000     35,2000     36,8100     0,0000      29,5000    35,0000     30,3260     37,9230     4,75
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EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      120
    38.1000     36.8000     36,9900    110,0000     25.1000     20,0000     10,2220     37,7670     2,7900

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      140
    38,4000     36,2000     36,6100      0,0000     29,3000     35.0000     18,8900     37,8630     5,2900

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      160
    34,7000     35,9000     36,5600      0,0000     27,2000     37,0000     29,9670     38,1780     3,2500

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      180
    36,5000     37.6000     37,2900    116.0000     23,7000     20.0000      8,6070     38,1370     2,3000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      200
    38,8000     36.6000     37,0100      0,0000     26.5000     37,0000     30,8650     38,2630     5,5000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      220
    39,3000     37,1000     37,5600      0,0000     26,5000     38,0000     29.9670     38,7750     6,1000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      8      TIME      240
    38,9000     37,0000     37,3600    120,0000     24,3000     31,0000     12,1970     38,4380     3,2500

EXPERIMENT NUMBER   2      SUBJECT NUMBER      9      TIME        0
    37,5000     35,8000     35,3600     72,0000     19,3000     24,0000     10,1940     36,8000     0,5000

EXPERIMENT NUMBER   2      SUBJECT NUMBER      9      TIME       20
    37,6000     35,7000     36,1600    122,0000     30,3000     28,0000     23,3780     37,1000     0,4500

EXPERIMENT NUMBER   2      SUBJECT NUMBER      9      TIME       40
    37,9000     35,6000     36,4900    142,0000     26,9000     28,0000     30,0600     37,4070     [illegible]
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EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME       60
    37.6000      36.0000       36.2700      90.0000        21.1080    25.0000      12.3040      37.2012      1.0000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME       80
    37.9000      36.3000       36.3900     148.0000        26.0000    29.0000      29.8040      37.4470      3.0000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      100
    38.1000      37.2000       36.7100     164.0000        25.1080    33.0000      28.1260      37.6630      2.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      120
    37.9000      37.5000       36.5900     156.0000        11.8080    27.0000      10.3700      37.5670      1.0000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      140
    36.2000      36.8000       36.7400       0.0000        24.4080    28.0000      25.8310      37.7620      2.0000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      160
    38.4000      36.8000       36.6100       0.0000        25.1080    29.0000      28.4780      37.8630      2.5000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      180
    38.2000      37.3000       36.5900     132.0000        19.9080    18.0000       9.4910      37.7170      0.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      200
    38.6000      37.0000       36.8100       0.0000        23.9080    29.0000      29.5320      38.6630      2.5000

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      220
    38.7000      36.8000       37.2400       0.0000        23.9080    28.0000      30.2360      38.2620      2.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER         9        TIME      240
    38.4000      36.5000       37.2100     144.0000        18.2080    20.0000      11.2490      38.0430      1.0000
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EXPE   NUMBER    2       SUBJECT NUMBER       10        TIME        0
                35.7000   34.1200      64.0000      24.1080     17.0000       7.6930      36.7660      1.2500

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        20
   37.3000      36.4000   35.2200     126.0000      31.9080     23.0000      23.0950      36.4760      3.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        40
   37.6000      35.8000   35.8200     136.0000      31.9080     24.0000      23.2740      37.0660      3.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        60
   37.4000      36.0000   35.9200      90.0000      24.8080     16.0000       6.6180      36.9560      0.7500

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        80
   37.8000      35.5000   36.1800     144.0000      33.2080     23.0000      22.9140      37.3140      3.5000

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        100
   38.2000      35.5000   36.1000       0.0000      32.7080     25.0000      23.2740      37.5780      4.2500

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        120
   37.8000      36.0000   35.3200     102.0000      26.9080     19.0000       7.8780      37.0560      1.5000

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        140
   38.0000      35.3000   35.9000       0.0000      31.2080     26.0000      23.2740      37.3700      4.0000

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        160
   38.5000      36.9000   36.5000       0.0000      30.4080     27.0000      23.0950      37.9000      4.5000

EXPERIMENT NUMBER    2       SUBJECT NUMBER       10        TIME        180
   38.0000      37.1000   36.1000     120.0000      22.8080     17.0000       7.8730      37.4300      1.7500
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XPERIMENT NUMBER    2      SUBJECT NUMBER      10       TIME      200
  38.3000      36.9000      36.2300      0.0000      31.2000      28.0000      25.7820      37.4790      4.2500

XPERIMENT NUMBER    2      SUBJECT NUMBER      10       TIME      220
  38.7000      37.0000      36.6700      0.0000      29.9000      28.0000      21.1250      38.0910      4.2500

XPERIMENT NUMBER    2      SUBJECT NUMBER      10       TIME      240
  38.4000      37.2000      36.8500    150.0000      23.5000      17.0000      10.7370      37.9350      2.5000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME        0
  37.7000      34.1000      33.9500     76.0000      28.3000       0.0000       8.8260      36.5750      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME       20
  37.3000      34.2000      35.1600    116.0000      33.2000      23.0000      18.5390      36.6580      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      [illegible]       TIME       40
  37.6000      33.8000      36.4400    120.00[illegible]      33.2000      21.0000      20.1290      37.2520      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME       60
  37.6000      36.9000      36.4200     82.0000      29.0000      20.0000       7.2370      37.2460      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME       80
  37.9000      37.2000      36.6600    122.0000      33.9000      24.0000      19.7760      37.5280      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME      100
  38.2000      37.2000      36.8700    124.0000      32.5000      24.0000      18.1860      37.4010      0.0000

XPERIMENT NUMBER    2      SUBJECT NUMBER      11       TIME      120
  38.2000      37.4000      36.6600     92.0000      24.8000      14.0000       7.4140      37.7300      0.0000
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EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       140
    38.3000      37.5000        36.8300    124.0000        31.1080    24.0000       20.6590       37.8598        0.0000

EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       160
    38.5000      37.6000        37.1000    136.0000        31.1080    26.0000       18.5390       38.0000        0.0000

EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       180
    38.4000      35.6000        37.0400     96.0000        25.5080    24.0000       11.6520       37.9920        0.0000

EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       200
    38.5000      35.4000        37.1200    144.0000        31.9080    27.0000       21.0120       38.0860        0.0000

EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       220
    38.7000      36.3000        37.4100    148.0000        31.9080    26.0000       20.3050       38.3130        0.0000

EXPERIMENT NUMBER    2        SUBJECT NUMBER      11        TIME       240
    38.7000      36.8000        37.4900    108.0000        24.8080    19.0000       10.5920       38.3370        0.0000

EXPERIMENT NUMBER    3        SUBJECT NUMBER       1        TIME         0
    47.0000       0.0000        34.6200     80.0000        25.0080    10.0000        5.4770       36.2660        1.0000

EXPERIMENT NUMBER    3        SUBJECT NUMBER       1        TIME        20
    37.2000      35.5000        35.3100    114.0000        31.0080    13.0000       17.1460       36.6330        2.0000

EXPERIMENT NUMBER    3        SUBJECT NUMBER       1        TIME        40
    37.7000      33.3000        35.8200    120.0000        29.5080    16.0000       19.4440       37.1360        2.1000

EXPERIMENT NUMBER    3        SUBJECT NUMBER       1        TIME        60
    37.8000      32.6000        35.4500     94.0000        23.0060    13.0000        6.5300       37.0050        1.0000
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XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	80			
37.8000	33.0000	35.7000	120.0000	27.5000	17.0000	19.9740	37.1700	2.2500
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	100			
38.0000	33.8000	36.1300	120.0000	27.5000	16.0000	19.2670	37.4390	2.7500
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	120			
38.3000	32.1000	35.4000	84.0000	23.0000	14.0000	7.4220	37.2200	0.4500
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	140			
38.0000	33.0000	35.5700	120.0000	26.0000	17.0000	19.0900	37.2710	2.2500
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	160			
38.2000	33.8000	36.1000	184.0000	27.5000	16.0000	19.9740	37.5700	2.2500
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	180			
38.2000	34.5000	36.0500	182.0000	19.0000	17.0000	7.9920	37.5550	0.6000
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	200			
36.3200	34.2000	36.0700	108.0000	26.5000	16.0000	19.7980	37.6310	2.5000
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	220			
38.4800	34.9000	36.3000	108.0000	26.5000	16.0000	19.9740	37.7700	2.5000
XPERIMENT NUMBER	3	SUBJECT NUMBER	1	TIME	240			
38.2000	34.1000	35.9700	107.0000	20.0000	18.0000	9.8970	37.5310	1.0000
XPERIMENT NUMBER	3	SUBJECT NUMBER	2	TIME	0			
37.3000	36.7000	35.0700	78.0000	25.1000	16.0000	8.6970	36.6310	0.7500

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 20
37,3000 36,2000 35,9200 119,0000 35,6080 17,0000 18,6420 36,8840 1,750

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 40
37,6000 35,9000 35,9700 115,0000 34,8080 18,0000 18,4650 37,1110 2,100

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 60
37,6000 36,3000 35,8200 78,0000 28,0080 16,0000 6,5660 37,0660 0,600

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 80
37,9000 36,2000 35,7500 118,0000 34,2080 19,0000 20,4180 37,2550 1,290

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 100
38,1000 35,9000 35,8700 119,0000 33,0080 21,0000 20,7740 37,4310 1,350

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 120
37,9000 35,7000 35,4500 89,0000 28,8080 19,0000 7,8090 37,2250 0,400

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 140
38,2000 36,2000 35,8700 120,0000 33,5080 22,0000 20,7740 37,9010 1,500

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 160
38,4000 36,2000 36,1500 130,0000 32,2080 20,0000 20,7740 37,7250 1,500

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 180
38,2000 35,8000 36,3100 94,0000 26,5080 19,0000 9,0920 37,6330 0,400

XPERIMENT NUMBER 3 SUBJECT NUMBER 2 TIME 200
38,3000 36,4000 36,2000 140,0000 30,9080 24,0000 21,3060 37,6700 1,[illegible]

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PERIMENT NUMBER    3      SUBJECT NUMBER       2      TIME        220
 38.4000      36.4000      36.3200     142.0000      30.9000     21.0000      20.9510      37.7740      1.5000

PERIMENT NUMBER    3      SUBJECT NUMBER       2      TIME        240
 38.3000      36.0000      36.5700     110.0000      28.0000     15.0000       9.0520      37.7810      0.4800

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME          0
 37.4000      36.3000      34.6100      96.0000      24.5000     16.0000       6.7070      36.5630      1.5000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME         20
 37.2000      34.5000      35.8900     132.0000      32.1000     21.0000      20.1290      36.8070      4.0000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME         40
 37.7000      34.4000      36.3100     132.0000      34.8000     22.0000      22.2480      37.2830      5.0000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME         60
 37.0000      35.2000      36.6600     116.0000      27.9000     20.0000       7.2370      37.4580      1.5000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME         80
 37.8000      34.8000      36.3900     135.0000      33.3000     23.0000      22.2460      37.3770      5.0000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME        100
 38.1000      35.6000      36.4600     135.0000      33.3000     20.0000      21.8950      37.0000      4.5000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME        120
 38.1000      36.3000      36.[illegible]     120.0000      26.5000     17.0000       7.2370      37.4600      1.0000

PERIMENT NUMBER    3      SUBJECT NUMBER       3      TIME        140
 38.2000      34.7000      36.2400       0.0000      33.3000     22.0000      22.0710      37.6180      5.0000
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ERIMENT NUMBER    3     SUBJECT NUMBER      3     TIME     160
 38.4000     34.6000     36.5400      0.0000     33.5000   23.0000     21.8950     37.8420     5.2500

ERIMENT NUMBER    3     SUBJECT NUMBER      3     TIME     180
 38.4000     35.5000     36.8600    120.0000     26.5000   14.0000      6.7070     37.9380     1.5000

ERIMENT NUMBER    3     SUBJECT NUMBER      3     TIME     200
 38.4000     34.8000     36.3800      0.0000     31.2000   18.0000     22.0710     37.7940     6.0000

ERIMENT NUMBER    3     SUBJECT NUMBER      3     TIME     220
 38.6000     34.9000     36.3400      0.0000     31.2000   20.0000     24.7200     37.9220     4.7500

ERIMENT NUMBER    3     SUBJECT NUMBER      3     TIME     240
 38.4000     36.4000     36.5400    136.0000     25.0000   14.0000      9.5330     37.8420     2.0000

ERIMENT NUMBER    3     SUBJECT NUMBER      4     TIME       0
 37.0000     37.1000     34.8100     82.0000     23.5000   18.0000      8.0140     36.3430     1.0000

ERIMENT NUMBER    3     SUBJECT NUMBER      4     TIME      20
 37.4000     35.6000     35.8500    134.0000     30.5000   19.0000     22.6470     36.9350     2.0500

ERIMENT NUMBER    3     SUBJECT NUMBER      4     TIME      40
 38.1000     35.7000     36.5200    156.0000     30.5000   20.0000     23.8670     37.6260     2.7500

ERIMENT NUMBER    3     SUBJECT NUMBER      4     TIME      60
 38.1000     36.7000     37.0600    102.0000     22.1000   14.0000     10.2790     37.7000     1.0000

ERIMENT NUMBER    3     SUBJECT NUMBER      4     TIME      80
 38.3000     35.0000     36.4900    150.0000     27.0000   20.0000     24.7380     37.7570     3.0000
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RIMENT NUMBER   3      SUBJECT NUMBER       4      TIME      100
38.6000     36.1000     36.9300    150.0000     27.5000     20.0000     24.8980     38.0990     3.000
RIMENT NUMBER   3      SUBJECT NUMBER       4      TIME      120
 0.0000     36.8000     36.7600    120.0000     22.1000     16.0000     11.1500      0.0000     1.750
RIMENT NUMBER   3      SUBJECT NUMBER       4      TIME      140
 0.0000     35.3000     37.1600      0.0000     24.9000     22.0000     26.4800      0.0000     3.650
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME        0
37.4000     35.9000     34.8100     99.0000     16.7000     22.0000     15.4800     36.6230     2.150
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME       20
37.6000     35.1000     36.1400    150.0000     25.7000     24.0000     26.1600     37.1620     1.150
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME       40
38.8000     35.4000     36.3900    152.0000     27.1000     28.0000     26.1600     37.5170     4.150
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME       60
37.0000     36.1000     36.5600    122.0000     21.6000     26.0000     10.4960     37.4280     2.150
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME       80
38.0000     35.0000     36.2600    156.0000     25.0000     33.0000     25.8040     37.4780     3.750
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME      100
38.4000     35.0000     36.5600    156.0000     25.0000     30.0000     27.5040     37.8400     3.700
RIMENT NUMBER   3      SUBJECT NUMBER       5      TIME      120
38.3000     36.4000     37.0100    126.0000     19.5000     30.0000     13.5220     37.9130     2.100
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RIMENT NUMBER    3        SUBJECT NUMBER        5        TIME      140
38.6000      35.5000       36.5600        0.0000       25.0000    29.0000      29.3640      37.9880      4.500

RIMENT NUMBER    3        SUBJECT NUMBER        5        TIME      160
38.9000      35.9000       36.9100        0.0000       25.7000    29.0000      35.5940      38.3030      4.500

RIMENT NUMBER    3        SUBJECT NUMBER        5        TIME      180
38.5000      37.5000       37.2400      132.0000       14.5000    36.0000      20.6420      38.1220      3.250

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME        0
37.6000      37.2000       35.3000       70.0000       25.9000    13.0000       7.2680      36.9100      1.000

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME       20
37.6000      35.8000       36.7200      116.0000       34.8000    22.0000      20.7510      37.3360      3.250

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME       40
38.1000      35.9000       37.0700      132.0000       36.2000    20.0000      19.5000      37.7910      4.300

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME       60
37.9000      35.4000       36.6700       84.0000       26.5000    13.0000       6.7360      37.9310      1.100

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME       80
38.0000      35.6000       36.9000      116.0000       35.6000    22.0000      20.0410      37.6700      3.250

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME      100
38.5000      36.0000       37.3000        0.0000       33.0000    27.0300      21.1050      38.1400      [illegible]

RIMENT NUMBER    3        SUBJECT NUMBER        6        TIME      120
38.2000      34.6000       36.8200       96.0000       26.5000    19.0000       7.6230      37.7660      [illegible]
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EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 140
38.2000 34.8000 37.2000 0.0000 36.2080 21.0000 19.1540 37.9000 3.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 160
38.6000 34.6000 37.6000 0.0000 34.8080 22.0000 19.6860 38.3000 3.7500

EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 180
38.4000 34.0000 37.4500 116.0000 25.1080 17.0000 7.4460 38.1150 0.0200

EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 200
38.6000 35.6000 37.6000 0.0000 34.8080 21.0000 19.8640 38.3000 3.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 220
39.1000 37.1000 38.1500 0.0000 33.6080 13.0000 20.0410 38.8150 3.7500

EXPERIMENT NUMBER 3 SUBJECT NUMBER 6 TIME 240
39.0000 37.4000 38.1000 140.0000 30.0080 17.0000 8.3330 38.7330 1.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 0
37.4000 36.2000 34.8000 76.0000 19.9080 0.0000 19.5340 36.6200 0.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 20
37.3000 35.2000 35.7500 120.0000 28.1080 22.0000 30.4460 36.8350 4.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 40
37.7000 34.7000 36.0200 120.0000 27.5080 22.0000 32.5580 37.3960 4.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 60
37.5000 34.7000 35.9700 0.0000 20.5000 17.0000 16.8960 37.0010 5.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 80
37,7000 34,0000 35,6700 120,0000 26,9080 20,0000 30,7980 37,0910 [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 100
37,9000 32,6000 35,7200 120,0000 26,9080 20,0000 31,8540 37,2460 [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 120
37,9000 32,9000 35,6500 0,0000 21,1080 18,0000 17,2460 37,2250 2,5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 140
37,9000 33,6000 35,7500 0,0000 26,1080 22,0000 30,2700 37,2550 6,0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 160
38,1000 33,4000 35,6700 0,0000 25,2080 22,0000 34,3180 37,3710 [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 180
37,8100 33,1000 35,2500 0,0000 21,1080 0,0000 18,1260 37,0390 6,0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 200
38,1000 34,2000 35,4700 0,0000 25,9080 0,0000 29,0380 37,3110 [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 220
38,3000 33,8000 35,9000 0,0000 25,2080 0,0000 29,2140 [illegible] [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 7 TIME 240
38,1000 33,0000 36,1200 0,0000 20,5080 0,0000 [illegible] [illegible] [illegible]

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 0
37,3000 36,0000 33,8400 88,0000 20,7080 19,0000 6,7000 [illegible] [illegible]

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EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 20

0.0000	36.0000	36.3100	146.0000	33.0080	25.0000	21.4040	0.0000	4.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 40

0.0000	35.1000	36.6500	158.0000	34.2000	25.0000	24.7100	0.0000	4.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 60

38.2000	36.1000	36.7700	112.0000	24.7000	22.0000	9.5720	37.7710	1.5000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 80

36.2000	35.7000	36.7900	168.0000	31.7080	27.0000	24.0140	37.7770	4.2500

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 100

38.6000	35.0000	36.9900	168.0000	30.2000	27.0000	26.1020	38.1170	4.2500

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 120

38.1000	36.4000	37.3400	126.0000	24.7000	0.0000	9.9200	37.8720	0.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 140

0.0000	34.6000	37.0900	0.0000	29.0080	0.0000	28.6860	0.0000	0.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 160

0.0000	34.6000	37.0900	0.0000	29.0000	0.0000	28.8860	0.0000	0.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 8 TIME 180

37.3000	36.6000	37.5400	132.0000	22.1000	0.0000	10.6160	37.3720	0.0000

EXPERIMENT NUMBER 3 SUBJECT NUMBER 9 TIME 0

37.3000	35.9000	35.2200	78.0000	18.2000	23.0000	10.1290	36.6760	2.2500

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EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      20
    37.5000      35.1000     36.1200       0.0000    25.1000   30.0000      26.8420     37.0860

EXPERIMENT NUMBER          SUBJECT NUMBER      9      TIME      40
    37.9000      35.0000     36.3000       0.0000    26.8000   29.0000      29.5090     37.4200

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      60
    38.1000      34.4000     36.2000     100.0000    21.1000   23.0000       6.2170     37.5300

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      80
    38.1000      35.0000     36.3000       0.0000    28.9000   24.0000      24.3530     37.5600

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      100
    38.2000      34.9000     36.5700       0.0000    29.6000   23.0000      23.2860     37.7110

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      120
    38.1000      34.3000     35.9200     106.0000    21.1000   21.0000       7.1060     37.4460

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      140
    38.2000      34.3000     36.3500       0.0000    30.1000   18.0000      20.6190     37.6450

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      160
    38.4000      35.8000     36.6700       0.0000    26.8000   19.0000      22.7520     37.8810

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      180
    38.3000      35.2000     36.6000     112.0000    19.8000   18.0000       5.5060     37.7900

EXPERIMENT NUMBER    3     SUBJECT NUMBER      9      TIME      200
    38.5000      36.3000     36.7100       0.0000    28.0000   19.0000      21.1520     37.9550
```

EXPERIMENT NUMBER	3	SUBJECT NUMBER	9	TIME	220		
38,7000	36,6000	36,8300	0,0000	26,0080	20,0000	21,1520	38,15[illegible]
EXPERIMENT NUMBER	3	SUBJECT NUMBER	9	TIME	240		
38,6000	37,2000	36,8500	116,0000	18,2080	16,0000	6,7500	38,0[illegible]
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	0		
37,7000	37,1000	35,0000	94,0000	26,2080	14,0000	8,4550	36,8[illegible]
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	20		
37,6000	35,6000	35,5200	116,0000	35,2000	18,0000	20,6130	36,9760
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	40		
37,8000	34,5000	35,4200	124,0000	37,9080	17,0000	20,7890	37,0860
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	60		
37,7000	35,8000	35,6200	80,0000	27,2000	17,0000	7,2210	37,0760
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	80		
38,0000	34,5000	35,2000	0,0000	35,2060	20,0000	19,9080	37,1600
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	100		
38,0000	34,5000	35,2000	0,0000	35,2000	20,0000	19,9080	37,1600
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	120		
37,9000	35,5000	35,5700	96,0000	27,2000	16,0000	7,2210	37,2010
EXPERIMENT NUMBER	3	SUBJECT NUMBER	10	TIME	140		
38,1000	34,9000	34,8500	0,0000	36,3000	18,0000	20,4360	37,1250

```
EXPERIMENT NUMBER    3       SUBJECT NUMBER      10        TIME        160
    38.3000      35.5000      35.5500      0.0000      34.1000      19.0000      20.9650      37.4750      7.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      10        TIME        180
    38.1000      35.7000      35.5700    104.0000      25.3000      17.0000       8.6310      37.3410      2.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      10        TIME        200
    38.3000      34.4000      35.5500      0.0000      32.3000      21.0000      19.0270      37.4750      6.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      10        TIME        220
    38.5000      34.7000      35.3500      0.0000      33.0000      21.0000      22.0220      37.5550      7.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      10        TIME        240
    38.5000      36.0000      35.5700    116.0000      28.9000      17.0000       6.8690      37.6210      2.2500

EXPERIMENT NUMBER    3       SUBJECT NUMBER      11        TIME          0
    37.2000      35.5000      34.2900     76.0000      25.1000      18.0000       8.5610      36.3270      0.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      11        TIME         20
    37.4000      34.5000      35.1000    112.0000      33.5000      22.0000      23.5550      36.7100      0.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      11        TIME         40
    37.6000      34.7000      35.7100      0.0000      33.5000      22.0000      23.3750      37.0330      0.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      11        TIME         60
    37.6000      35.2000      35.6900     78.0000      25.1000      19.0000       8.7390      37.0270      0.0000

EXPERIMENT NUMBER    3       SUBJECT NUMBER      11        TIME         80
    37.7000      35.0000      35.9400      0.0000      32.8000      22.0000      24.0900      37.1720      0.0000
```

```
EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        100
    37.8000     35.1000     35.8900      0.0000     30.1000     22.0000     18.3780     37.2270      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        120
    37.8000     35.8000     36.0700     84.0000     23.1000     19.0000      8.0250     37.28[illegible]0      0.0[illegible]

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        140
    37.9000     35.2000     35.9600      0.0000     34.7000     25.0000     23.7[illegible]     37.3180      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        160
    37.9000     35.3000     36.1600      0.0000     34.7000     22.0000     22.4640     37.3780      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        180
    37.9000     36.3000     36.4100     86.0000     21.0080     21.0000      9.2750     37.4530      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        200
    38.2000     36.1000     36.2600      0.0000     32.1000     24.0000     23.0190     37.6180      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        220
    38.3000     36.2000     36.3700      0.0000     31.5000     24.0000     24.6260     37.7210      0.0000

EXPERIMENT NUMBER    3      SUBJECT NUMBER      11        TIME        240
    38.2000     36.8000     36.6900    1[illegible]2.0000     22.4080     23.0000     10.8810     37.7470      0.0000

EXPERIMENT NUMBER    4      SUBJECT [illegible]MBER      1        TIME          0
    37.3000     34.0000     37.[illegible]     80.0000     23.0000     16.0000      8.4090     36.0430      [illegible].2500

EXPERIMENT NUMBER    4      SUBJECT NUMBER       1        TIME         20
    37.5000     33.5000     32.8500    105.0000     26.0080     22.0000     22.5[illegible]80     36.1050      3.0000
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EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        40
    37.5000       33.5000      32.8500     111.0000       26.0080     22.0000       22.5580       36.1050        2.[illegible]

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        60
  . 37.7000       33.9000      32.4700      71.0000        0.0080     14.0000        0.0000       36.1310        1.7500

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        80
    37.7000       33.6000      32.6600     110.0000        0.0080     22.0000        0.0000       36.1880        2.7500

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        100
    37.7000       33.6000      32.6600     112.0000        0.0080     18.0000        0.0000       36.1880        2.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        120
    37.7000       33.4000      33.2700      81.0000       23.0080     20.0000       13.0660       36.3710        1.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        140
    37.5000       33.6000      33.2000     117.0000       24.5080     23.0000       17.3640       36.2100        2.6000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        160
    37.5000       33.5000      33.6400     118.0000       26.0080     23.0000       19.5130       36.3420        2.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        180
    37.7000       32.3000      33.7700      83.0000       21.7080     20.0000        8.2300       36.5210        1.6000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        200
    37.6000       33.5000      33.9700     120.0000       26.0080     20.0000       19.8710       36.5110        2.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER        1        TIME        220
    37.8000       33.7000      33.9700     128.0000       27.3080     20.0000       20.7670       36.6510        2.7500
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EXPERIMENT NUMBER 4		SUBJECT NUMBER 1		TIME	240			
37.8000	32.5000	34.4000	93.0000	24.5000	16.0000	7.3340	36.7800	1.2500
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	0			
37.4000	34.3000	33.4200	80.0000	30.8000	20.0000	6.6110	36.2060	1.0000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	20			
37.6000	34.5000	33.7500	112.0000	33.0000	27.0000	22.1750	36.4450	3.0000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	40			
37.9000	34.3000	33.7200	118.0000	36.0000	28.0000	20.5650	36.6460	2.5000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	60			
37.5000	34.8000	33.6600	80.0000	34.2000	20.0000	5.0010	36.3480	0.9000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	80			
0.0000	34.2000	33.4100	111.0000	34.2000	28.0000	22.5330	0.0000	2.9000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	100			
0.0000	34.3000	33.8800	119.0000	35.5000	29.0000	19.6710	0.0000	2.6000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	120			
37.6000	34.1000	32.9000	78.0000	32.2000	18.0000	3.3910	36.1900	1.1000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	140			
37.7000	34.1000	33.2100	113.0000	33.5000	26.0000	23.2490	36.3530	2.6000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 2		TIME	160			
37.8000	34.1000	33.3400	130.0000	33.5000	30.0000	18.7760	36.4620	3.0000

EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	120			
38.0000	33.6000	33.3200	83.0000	32.2000	18.0000	4.1440	36.5960	1.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	140			
38.0000	33.8000	32.3700	113.0000	33.5080	31.0000	23.8460	36.3110	2.7500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	160			
38.0000	33.6000	31.7200	118.0000	31.4080	35.0000	21.7100	36.1160	2.7500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	180			
37.9000	33.2000	33.1700	82.0000	28.0080	23.0000	3.1980	36.4810	2.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	200			
37.8000	33.0000	32.0200	121.0000	32.2080	29.0000	22.0660	36.0660	3.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	220			
38.0000	32.8000	32.0200	123.0000	30.8080	32.0000	21.8880	36.2060	3.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	2	TIME	240			
37.8000	33.6000	33.8900	92.0000	26.5000	24.0000	7.8260	36.4270	2.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	3	TIME	0			
37.3000	32.8000	32.6400	84.0000	27.5000	18.0000	6.4750	35.9020	1.5000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	3	TIME	20			
38.0000	32.7000	34.5200	114.0000	0.0080	22.0000	11.2000	36.9560	3.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	3	TIME	40			
37.9000	32.4000	34.7900	114.0000	0.0080	24.0000	17.6750	36.9670	3.5000

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 120
37.6000 33.0000 33.1200 100.0000 29.0080 21.0000 6.6110 36.2560 1.000

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 140
37.7000 33.2000 32.6800 0.0000 33.8080 21.0000 18.7760 36.1740 3.250

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 160
37.8000 33.0000 33.0800 0.0000 33.8000 25.0000 18.9550 36.3840 3.000

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 180
37.7000 33.0000 33.5500 94.0000 0.0080 22.0000 5.7170 36.4550 1.000

EXPERIMENT NUMBER 4 SUBJECT NUMBER [illegible] TIME 200
37.7000 33.4000 33.0400 0.0000 0.0080 26.0000 18.9550 36.3020 2.750

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 220
37.9000 33.4000 33.5700 0.0000 0.0080 24.0000 18.2400 36.6010 3.250

EXPERIMENT NUMBER 4 SUBJECT NUMBER 3 TIME 240
37.8000 33.0000 33.6000 81.0000 0.0080 21.0000 5.8950 36.6000 1.250

EXPERIMENT NUMBER 4 SUBJECT NUMBER 4 TIME 0
37.0000 34.4000 33.1500 78.0000 23.0080 16.0000 7.6760 35.8450 1.500

EXPERIMENT NUMBER 4 SUBJECT NUMBER 4 TIME 20
37.5000 33.3000 33.6200 120.0000 29.4000 28.0000 22.6870 36.3360 3.000

EXPERIMENT NUMBER 4 SUBJECT NUMBER 4 TIME 40
37.6000 33.3000 34.7500 130.0000 33.7000 29.0000 22.1510 36.3650 3.400

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EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       60
    37.7000      31.9000      34.5200     92.0000      23.8000     17.0000       9.8210      36.7460      1.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       80
    38.1000      32.3000      34.1000    132.0000      29.4000     28.0000      21.9720      36.9000      2.3000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       100
    38.2000      30.4000      34.5000    128.0000      30.1080     27.0000      21.9720      37.0900      2.6000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       120
    38.1000      30.7000      34.6700     90.0000      28.0080     14.0000       7.1300      37.0710      1.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       140
    38.1000      30.3000      34.1000    136.0000      30.9000     29.0000      22.1510      36.9000      2.5000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       160
    38.3000      30.1000      35.0500    140.0000      30.1080     22.0000      21.4360      37.3250      2.5000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       180
    37.9000      33.4000      35.0200     94.0000      25.1000     17.0000       8.0340      37.0360      1.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       200
    38.1000      32.3000      34.3700    140.0000      29.4000     27.0000      23.2230      36.9810      2.6000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       220
    38.2000      32.1000      34.6700    136.0000      27.2080     21.0000      23.9380      37.1410      2.4000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        4       TIME       240
    37.9000      33.3000      34.7700    106.0000      25.1080     15.0000       7.4980      36.9610      1.5000
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EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        0
   37.4000      33.8000      32.0600      88.0000      26.3000     15.0000      10.5420      35.7980      1.5000

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        20
   37.4000      33.9000      32.1900     122.0000      34.1000     19.0000      21.5150      35.8370      3.0000

EXPERIMENT NUMBER    4      SUBJECT  UMBER        5      TIME        40
   37.9000      33.9000      32.7100     121.0000      34.[illegible]    24.0000      16.6310      36.3430      2.7500

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        60
   37.6000      34.5000      33.2100      78.0000      28.7000     15.0000       5.7770      36.2830      1.0000

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        80
   37.9000      34.3000      32.6900     138.0000      32.9000     21.0000      16.2690      36.3370      3.0000

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        100
   38.2000      34.3000      33.3600     138.0000      32.9080     22.0000      18.078       36.7480      2.2500

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        120
   37.6000      34.4000      33.8600      83.0000      25.8000     14.0000       6.8620      36.4780      0.7500

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        140
   37.9000      34.1000      33.1900     133.0000      35.4080     20.0000      18.9820      36.4870      2.7500

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        160
   38.0000      34.0000      33.7600     144.0000      34.7980     21.0000      1[illegible]      36.7280      2.[illegible]

EXPERIMENT NUMBER    4      SUBJECT NUMBER        5      TIME        180
   37.7000      34.3000      34.1600      84.0000      27.2080     17.0000       6.1380      36.6380      1.[illegible]
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EXPERIMENT NUMBER    4       SUBJECT NUMBER        5       TIME       200
    37.9000      34.0000       33.4400    123.0000       34.1080      22.0000      18.6200      36.5620      2.5000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        5       TIME       220
    38.0000      34.0000       33.6600    133.0000       32.9080      21.0000      17.7180      36.6080      2.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        5       TIME       240
    37.8000      34.0000       34.2600     95.0000       25.8080      18.0000       7.0470      36.7380      0.7500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME         0
    37.4000      35.2000       33.3600     72.0000       27.0080      15.0000       5.0010      36.1080      1.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME        20
    37.4000      35.4000       33.7900    108.0000       32.0080      27.0000      17.6560      36.3170      2.7500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME        40
    37.5000      35.6000       33.8900    114.0000       32.5000      29.0000      17.3030      36.4170      3.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME        60
    37.5000      35.0000       33.1900     60.0000       26.2080      18.0000       6.7070      36.2070      1.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME        80
    37.5000      34.8000       33.0300    108.0000       32.0080      30.0000      17.3030      36.1590      3.0000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME       100
    37.7000      35.2000       33.1900    114.0000       32.0080      22.0000      17.3030      36.3470      2.5000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        6       TIME       120
    37.7000      34.6000       33.1900     64.0000       24.1080      18.0000       6.7070      36.3470      1.0000
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EXPERIMENT NUMBER    4        SUBJECT NUMBER          6         TIME       140
     37.5000      33.2000      32.8900     108.0000        28.8080      28.0000       20.3050       36.1170       3.1000

EXPERIMENT NUMBER    4        SUBJECT NUMBER          6         TIME       160
     37.7000      34.0000      33.2900     120.0000        28.5080      32.0000       21.3650       36.3770       3.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER          6         TIME       180
     37.3000      34.8000      33.4300      66.1000        24.1080      15.0000        5.6480       36.1390       1.5000

EXPERIMENT NUMBER    4        SUBJECT NUMBER          6         TIME       200
     37.4000      34.4000      33.2600     120.0000        29.0080      29.0000       16.9500       36.1580       3.0000

EXPERIMENT NUMBER    4        SUBJECT NUMBER          6         TIME       220
     37.6000      35.2000      33.8600     120.0000        27.5080      34.0000       21.3650       36.4780       3.2500

EXPER MENT NUMBER    4        SUBJECT NUMBER          6         TIME       240
     37.5000      35.0000      33.8600      72.0000        24.1080      18.0000        6.5310       36.4080       1 500

EXPERIMENT NUMBER    4        SUBJECT NUMBER          7         TIME         0
     37.4000      32.2000      32.8500      90.0000        25.1080      12.0000        9.4280       36.0350       2.2500

EXPERIMENT NUMBER    4        SUBJECT NUMBER          7         TIME        20
     37.3000      32.2000      34.0000     108.0000        28.6080      19.0000       27.5840       36.3100       4.8000

EXPERIMENT NUMBER    4        SUEJECT NUMBER          7         TIME        40
     37.3000      32.8000      34.0400     138.0000        26.5080      24.0000       25.6160       36.3220       5.2500

EXPERIMENT NUMBER    4        SUBJECT NUMBER          7         TIME        60
     37.3000      33.2000      33.2700       0.0000        25.1000      12.0000       12.6320       36.0910       3.2500
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EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME         80
    37.5000      33.4000      33.2200       0.0000       28.0080      22.0000      12.6320      36.2160      3.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        100
    37.5000      33.7000      33.0500       0.0000       24.5080      19.0000      31.5000      36.1650      5.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        120
    37.6000      34.0000      33.3000       0.0000       23.1080      12.0000      10.8520      36.3100      2.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        140
    37.5000      33.8000      32.9500       0.0000       28.0080      23.0000      27.0500      36.1350      4.7500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        160
    37.5000      33.5000      33.5200       0.0000       26.0080      24.0000      25.4480      36.3060      4.7500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        180
    37.6000      33.9000      32.2000       0.0000       25.1080      13.0000      12.0980      35.9800      2.0000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        200
    37.5000      34.0000      32.9200       0.0000       28.0080      22.0000      30.0760      36.1260      4.0000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        220
    37.7000      34.9000      33.3000       0.0000       28.0080      25.0000      21.8880      36.3800      5.2500

EXPERIMENT NUMBER    4       SUBJECT NUMBER        7        TIME        240
    37.5000      34.8000      33.1200       0.0000       27.2080      14.0000      12.2760      36.1860      2.5000

EXPERIMENT NUMBER    4       SUBJECT NUMBER        8        TIME          0
    37.2000      33.5000      32.4500      74.0000        0.0080      18.0000       7.2370      35.7750      1.7500
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EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	20		
37.4000	33.9000	33.5000	128.0000	32.6080	26.0000	26.8400	36.2300	4.5000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	40		
37.7000	3 2000	33.6500	132.0000	32.6080	28.0000	27.3690	36.4850	4.5000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	60		
37.6000	34.9000	33.5200	74.0000	27.6080	18.0000	6.8840	36.3760	2.1000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	80		
37.8000	34.7000	33.7500	0.0000	32.6080	30.0000	26.6630	36.5650	4.7500
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	100		
38.0000	34.5000	33.9000	0.0000	31.1080	2[illegible].0000	27.1930	36.7700	4.3000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	120		
37.6000	34.5000	33.4200	100.0000	24.2080	19.0000	7.2370	36.3460	2.0000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	140		
37.7000	34.1000	33.4500	0.0000	30.3080	28.0000	27.8990	36.4250	5.0000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	160		
38.1000	34.9000	33.6500	0.0000	29.9080	32.0000	28.0760	36.7650	5.0000
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	180		
37.7000	34.6000	33.4700	110.0000	22.8080	22.0000	8.2970	36.4310	2.2500
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	200		
37.7000	34.4000	33.5100	0.0000	29.9080	33.0000	28.7820	36.4430	5.2500

EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	220						
38.1000	35.5000	34.1800	0.0000	31.1080	32.0000	28.9590	36.9240	5.5000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 8		TIME	240						
36.1000	35.4000	33.9200	120.0000	29.1080	23.0000	9.7090	36.8460	2.0000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	0						
37.5200	33.0000	33.5400	66.0000	20.8000	22.0000	8.9540	36.3120	1.5000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	20						
37.6000	33.8000	34.2600	118.0000	29.0080	26.0000	23.8800	36.5980	3.2500			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	40						
37.7080	33.8000	34.1100	0.0000	26.1080	25.0000	24.9340	36.6230	3.0000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	60						
37.4000	33.8000	33.8100	70.0000	20.0080	22.0000	10.5340	36.3230	1.5000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	80						
37.5000	33.5000	33.5900	0.0000	26.1080	24.0000	28.4460	36.3270	3.0000			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	100						
37.9000	34.1000	33.5600	0.0000	26.1080	28.0000	25.6360	36.5980	3.2500			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	120						
37.7000	34.0000	33.4900	78.0000	22.6080	22.0000	8.6030	36.4370	1.7500			
EXPERIMENT NUMBER 4		SUBJECT NUMBER 9		TIME	140						
37.7000	33.4000	33.5600	0.0000	27.0080	26.0000	24.7580	36.4580	3.2500			

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EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      100
  37.7000     31.6000     33.7700    120.0000     27.6000     27.0000     24.7570     36.5210      3.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      120
  37.5000     32.1000     33.8900     72.0000     20.8080     25.0000      8.8310     36.4170      1.2600

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      140
  37.4000     31.6000     33.2500   [illegible]   26.3080     27.0000     25.4490     36.1550      3.6000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      160
  37.9000     32.3000     33.7700    112.0000     25.7080     26.0000     24.4100     36.3810      3.4000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      180
  37.3000     32.9000     33.3200     72.0000     20.4000     24.0000      8.6310     36.1060      1.6000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      200
  37.3000     32.9000     33.4600      0.0000     26.3080     25.0000     20.7750     36.1480      3.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      220
  37.3000     32.9000     33.7300      0.0000     25.7080     32.0000     20.4290     36.2290      3.9000

EXPERIMENT NUMBER    5      SUBJECT NUMBER      9      TIME      240
  37.2000     31.2000     33.4300      0.0000     23.0050     23.0000      8.1390     36.0690      1.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER     10      TIME        0
  37.6000     33.2000     32.5600     76.0000     26.6080     17.0000      6.7000     36.0880   [illegible]

EXPERIMENT NUMBER    5      SUBJECT NUMBER     10      TIME       20
  37.6000     32.0000     32.2100    108.0000     34.0080     23.0000     18.5190     35.9830   [illegible]
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ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	100			
38.0000	34.7000	32.1400	108.0000	34.2000	23.0000	15.8550	36.2420	2.0000
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	120			
37.8000	34.6000	32.9100	80.0000	33.1080	18.0000	5.2830	36.3330	1.0000
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	140			
27.8000	34.2003	32.3200	112.0000	35.0080	24.0000	13.9170	36.1560	2.0000
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	160			
37.9000	34.1000	32.0800	112.0000	35.8000	24.0000	14.4460	36.1540	2.0000
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	180			
37.7000	34.2000	32.6300	82.0000	35.8080	18.0000	5.2830	36.1790	0.7500
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	200			
37.8600	33.5000	32.1300	114.0300	33.8000	23.0000	7.4410	36.0990	1.7500
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	220			
36.9900	34.1000	32.2900	120.0000	34.2080	24.0000	15.3270	36.2870	1.7500
ERIMENT NUMBER	4	SUBJECT NUMBER	10	TIME	240			
38.1000	33.7000	33.0800	92.0000	32.4080	20.0000	7.7500	36.5940	1.0000
ERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	[illegible]			
37.0000	32.9000	32.3700	76.0000	27.0080	19.0000	[illegible].2040	35.4110	0.[illegible]
ERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	20			
37.3600	32.7000	33.4900	104.0000	34.3080	23.0000	20.2150	36.1370	0.0000

EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	40	37.5000	32.6000	33.6600	104.0000	35.1000	24.0000	20.2150	36.3480	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	60	37.5000	33.0000	33.3900	76.0000	30.5000	19.0000	7.7330	36.2670	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	80	37.5000	32.0000	33.1900	100.0000	35.1000	20.0000	19.6880	36.2070	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	100	37.6000	32.2000	32.8000	104.0000	34.5000	23.0000	19.1600	36.1780	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	120	37.9000	32.9000	32.5500	68.0000	30.5000	20.0000	7.0300	36.0150	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	140	37.6000	31.9000	32.5200	108.0000	36.5000	29.0000	18.6330	36.0763	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	160	37.6000	31.7000	32.9900	100.0000	35.1000	22.0000	17.7540	36.2170	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	180	37.5000	33.0000	32.7900	66.0000	28.4000	21.0000	8.9640	36.0870	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	200	37.5000	31.7000	32.9000	104.0000	34.5000	25.0000	19.5120	36.1200	0.0000
EXPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	220	37.5000	31.0000	33.6400	100.0000	34.5000	27.0000	19.5120	36.3420	0.0000

XPERIMENT NUMBER	4	SUBJECT NUMBER	11	TIME	240			
37.5000	33.5000	33.4700	74.0000	21.6000	21.0000	8.9640	36.3510	0.0000
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	0			
37.5000	33.0000	32.2900	88.0000	24.5000	15.0000	7.3970	35.9370	1.0000
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	20			
37.3000	32.9000	32.4000	120.0000	31.5000	19.0000	22.2140	35.8300	2.5000
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	40			
37.6000	32.7000	32.4000	120.0000	30.2000	19.0000	20.7690	36.0400	2.6000
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	60			
37.7000	32.6000	32.3200	73.0000	27.5000	17.0000	6.8550	36.0860	1.2500
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	80			
37.6000	32.8000	32.4200	129.0000	31.5000	19.0000	21.1300	36.0460	2.7300
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	100			
37.6000	32.3000	32.6000	120.0000	31.5000	19.0000	21.3110	36.1000	2.7300
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	120			
37.4000	32.3000	32.9600	70.0000	26.0000	16.0000	6.8550	36.0600	1.2900
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	140			
37.5000	32.3000	32.9200	0.0000	31.5000	20.0000	20.9490	36.1260	2.5500
XPERIMENT NUMBER	5	SUBJECT NUMBER	1	TIME	160			
37.7000	32.3000	33.4700	0.0000	31.5000	18.0000	20.9490	36.4310	2.0000

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PERIMENT NUMBER    5      SUBJECT NUMBER      1      TIME       180
  37.7000      33.0000      33.8000     90.0000     29.5000    16.0000     10.1070     36.5300     1.250

PERIMENT NUMBER    5      SUBJECT NUMBER      1      TIME       200
  37.9000      32.5000      33.7200      0.0000     31.5000    20.0000     19.6840     36.3660     2.750

PERIMENT NUMBER    5      SUBJECT NUMBER      1      TIME       220
  37.8000      32.0000      33.6700      0.0000     31.0000    21.0000     19.6840     36.5610     2.750

PERIMENT NUMBER    5      SUBJECT NUMBER      1      TIME       240
  37.8000      33.0000      33.7500     90.0000     26.0000    16.0000      5.7710     36.5850     1.250

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME         0
  37.3000      32.2000      33.6600     80.0000     26.0000    21.0000      6.7580     36.2080     1.150

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME        20
  37.6000      31.9000      32.4500    115.0000     34.0000    31.0000     24.0240     36.0550     3.750

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME        40
  37.8000      32.8000      32.9300    122.0000     34.7000    28.0000     23.6680     36.3390     3.500

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME        60
  37.7000      33.1000      33.3600     64.0000     28.0000    21.0000      8.0040     36.4040     1.500

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME        80
  37.9000      33.6000      33.1700    118.0000     34.7000    28.0000     22.6420     36.4910     2.500

PERIMENT NUMBER    5      SUBJECT NUMBER      2      TIME       100
  37.9000      33.7000      32.7800    121.0000     33.5000    31.0000     24.7360     36.3640     2.750
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EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 120							
38.0000	33.6000	33.3200	83.0000	32.2000	18.0000	4.1440	36.5960	1.2500			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 140							
38.0000	33.8000	32.3700	113.0000	33.5080	31.0000	23.8460	36.3110	2.7500			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 160							
38.0000	33.6000	31.7200	118.0000	31.4060	35.0000	21.7100	36.1140	2.7500			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 180							
37.9000	33.2000	33.1700	82.0000	28.0080	23.0000	3.1990	36.4810	2.0000			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 200							
37.8000	33.0000	32.0200	121.0000	32.2080	29.0000	22.0660	36.0660	3.0000			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 220							
38.0000	32.8000	32.0200	123.0000	30.8080	32.0000	21.8880	36.2060	3.2500			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 2		TIME 240							
37.8000	33.6000	33.8900	92.0000	26.5000	24.0000	7.8260	36.6270	2.2500			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 3		TIME 0							
37.3000	32.8000	32.6400	84.0000	27.5080	18.0000	6.4750	35.9020	1.5000			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 3		TIME 20							
38.0000	32.7000	34.5200	114.0000	0.0080	22.0000	11.2000	3[illegible].9560	3.0000			
EXPERIMENT NUMBER 5		SUBJECT NUMBER 3		TIME 40							
37.9000	32.4000	34.7900	114.0000	0.0080	24.0000	17.6750	36.9170	3.5000			

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 60
38.2000 33.5000 34.6100 98.0000 0.0080 19.0000 6.1250 37.1230 1.2500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 80
36.6000 33.6000 34.8000 120.0000 0.0080 22.0000 19.0750 37.4600 3.2500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 100
38.7000 33.6000 34.9100 120.0000 0.0080 22.0000 19.7750 [illegible] 3.2500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 120
[illegible] 39.4000 [illegible] 102.0000 0.0080 20.0000 5.4250 37.2080 1.3000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 140
37.7000 30.1000 33.2100 126.0000 31.9080 23.0000 17.6750 36.3530 3.2500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 160
37.7000 30.5000 33.6600 129.0000 30.2380 21.0000 18.3750 36.4880 3.4000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 180
37.5000 30.5000 33.7100 76.0000 25.5080 19.0000 5.9500 36.3630 1.5000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 200
37.7000 30.0000 32.8700 114.0000 31.0080 27.0000 16.6250 36.9510 2.5000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 220
37.7100 30.0000 33.1400 122.0000 [illegible] 13.0000 17.[illegible] 36.33[illegible] [illegible]

EXPERIMENT NUMBER 5 SUBJECT NUMBER 3 TIME 240
37.4000 30.9000 33.5200 82.0000 25.3000 16.0000 6.4750 35.8360 1.7000

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EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME          0
    37.4000      33.4000      33.2000      78.0000      0.0000      23.0000      12.8810      36.1400      1.9000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME         20
    37.7000       0.0000      33.8500     120.0000     30.0080      29.0000      21.0510      36.9090      4.0000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME         40
    38.0000       0.0000      34.7400     120.0000     29.0080      26.0000      22.2980      37.0220      3.9000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME         60
    37.7000       0.0000      34.1700      79.0000     23.5080      16.0000       8.1300      36.6410      1.7000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME         80
    37.9000       0.0000      33.5000     120.0000     31.1080      27.0000      22.2980      36.5800      3.7500

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME        100
    38.1000       0.0000      34.0500     122.0000     30.3080      32.0000      22.6520      36.8690      4.0500

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME        120
    37.8000       0.0000      34.3200      80.0000     25.5080      12.0000       6.1910      36.7500      2.0000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME        140
    38.2000       0.0000      33.6000     120.0000     29.0080      28.0000      21.7670      36.8200      2.9000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME        160
    38.2000       0.0000      34.0000     124.0000     30.0080      30.0000      22.4790      36.9400      3.9000

EXPERIMENT NUMBER    5       SUBJECT NUMBER        4        TIME        180
    38.0000      32.8000      34.4500      88.0000     24.2080      14.0000       8.2390      36.9390      2.2500
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EXPERIMENT NUMBER 5 SUBJECT NUMBER 4 TIME 200
38.0000 0.0000 33.9500 122.0000 28.2080 30.0000 23.7140 36.7850 3.9000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 4 TIME 220
38.2000 0.0000 34.4200 128.0000 31.1000 33.0000 22.2980 37.0560 3.9000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 4 TIME 240
38.0000 33.6000 34.7800 84.0000 22.9000 11.0000 7.4300 37.0340 2.4000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 0
37.4000 32.1000 32.2800 74.0000 28.5080 16.0000 6.7830 35.8640 1.4500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 20
37.6000 32.7000 31.8100 106.0000 35.4060 23.0000 18.5770 35.8630 2.5000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 40
37.9000 32.7000 31.9100 114.0000 36.0080 21.0000 18.2200 36.1030 2.6000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 60
37.6000 33.4000 32.5400 73.0000 27.7080 18.0000 6.2471 36.0820 1.0000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 80
37.7000 33.0000 31.4400 114.0000 31.3080 23.0000 21.0790 35.8220 [illegible].2500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 100
37.9000 33.0000 32.2400 150.0000 31.3080 21.0000 20.0070 36.2020 2.9000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 5 TIME 120
37.3000 33.4000 32.8800 71.0000 25.0060 18.0000 5.5350 35.9740 2.1500

EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	140			
37.6000	32.9000	32.1600	120.0000	31.3000	24.0000	18.0410	35.9740	3.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	160			
37.8000	32.4000	32.3100	126.0000	31.3000	21.0000	18.0410	36.1530	3.9000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	180			
37.3000	32.9000	33.4100	72.0000	24.3000	18.0000	7.1400	36.1330	2.0500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	200			
37.6000	32.9000	32.8400	132.0000	34.0000	23.0000	17.3260	36.1720	3.5500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	220			
38.0000	33.0000	33.1800	126.0000	31.3000	25.0000	16.9690	36.5540	3.7500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	5	TIME	240			
37.7000	33.5000	33.4800	93.0000	23.0000	18.0000	6.4250	36.6340	2.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	6	TIME	0			
37.3000	32.6000	32.6100	68.0000	25.0000	21.0000	6.4530	35.8930	1.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	6	TIME	20			
37.4000	32.1000	34.0600	108.0000	30.8000	30.0000	14.5300	36.3980	3.2500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	6	TIME	40			
37.8000	33.3000	34.7100	120.0000	32.2000	24.0000	17.2230	36.8730	2.7500
EXPERIMENT NUMBER	5	SUBJECT NUMBER	6	TIME	60			
37.9000	34.3000	34.1900	66.0000	25.0000	24.0000	6.9910	36.5070	1.2500

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EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME       80
   37.4000     33.9000      33.6900    102.0000       31.6080    32.0000     15.2480     36.2870     2.2500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      100
   37.7000     34.3000      34.3900    108.0000       32.2080    26.0000     17.9410     36.7070     2.2500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      120
   37.6000     34.7000      33.3900     68.0000       25.0080    22.0000      6.1530     36.3370     1.2500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      140
   37.5000     33.9000      33.5400    108.0000       32.2080    30.0000     17.4020     36.3120     2.5000

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      160
   37.7000     34.3000      34.2400    108.0000       30.1080    32.0000     18.3000     36.6620     2.5000

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      180
   37.5000     34.0000      34.0600     70.0000       23.2080    22.0000      6.6320     36.4680     1.0000

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      200
   37.5000     34.1000      33.9600    110.0000       31.6080    32.0000     17.9410     36.4380     2.2500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      220
   37.8000     34.7000      34.4900    114.0000       29.3080    30.0000     16.8640     36.8070     2.7500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       6        TIME      240
   37.5000     34.5000      34.6100     76.0000       25.0000    22.0000      6.6320     36.6330     1.2500

EXPERIMENT NUMBER   5      SUBJECT NUMBER       7        TIME        0
   37.3000     32.1000      33.4100     74.0000       24.2080    12.0000      8.2920     36.1330     2.7500
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EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME        20
    37,4000      30,[illegible]000     34,8600    112,0000       31,3060     21,0000      29,5910      36,6380      4,7500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME        40
    37,7000      31,1000     35,3900    116,0000       30,8060     22,0000      27,6050      37,0070      5,5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME        60
    37,6000      32,5000     34,5900     74,0000       25,9080     19,0000      11,541[illegible]      36,6970      1,7500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME        80
    37,6000      31,7000     34,8400    112,0000       31,5060     20,0000      27,4250      36,7720      4,5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME       100
    37,8000      31,9000     35,0600    114,0000       30,0060     23,0000      28,1470      36,9780      5,2500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME       120
    37,8000      33,5000     34,2400     72,0000       25,1080     16,0000       6,2920      36,7320      1,8000

EXPERIMENT NUMBER    5      SUBJECT NUMBER               TIME       140
    37,9000      32,1000     33,9400      0,0000       29,2080     21,0000      26,3420      36,7120      4,9800

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME       160
    38,0000      32,6000     34,7900      0,0000       27,2080     24,0000      26,8690      37,0370      4,2500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME       180
    37,8000      33,9000     34,3100     76,0000       23,7080     14,0000      12,6240      36,7530      2,8000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       7       TIME       200
    37,7000      32,1000     34,2900      0,00[illegible]0       27,[illegible]080     19,0000      27,2440      36,6770      3,2500
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EXPERIMENT NUMBER 5 SUBJECT NUMBER 7 TIME 220
37.8000 32.5000 34.4100 0.0000 25.9100 23.0000 34.8250 36.7630 7.0000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 7 TIME 240
37.7000 33.6000 34.3600 76.0000 25.1100 15.0000 10.9990 36.6950 2.5000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 0
37.6000 32.5000 33.3700 96.0000 22.3100 21.0000 8.8940 36.0310 1.7500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 20
37.6000 32.3000 32.4700 132.0000 30.0100 26.0000 26.1600 36.0640 4.5000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 40
27.6000 32.0000 33.4200 0.0000 30.0080 27.0000 24.7360 36.3460 4.0000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 60
37.6000 32.1000 33.5200 100.0000 23.0180 19.0000 8.3600 36.3760 2.7500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 80
38.0000 30.3000 33.2700 0.0000 30.7160 25.0000 27.2280 36.5850 4.0000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 100
38.2000 31.4000 34.0000 0.0000 27.7080 31.0000 27.2280 36.9400 5.0000

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 120
37.7000 33.4000 33.9000 92.0000 23.0080 16.0000 7.6480 36.5600 2.5500

EXPERIMENT NUMBER 5 SUBJECT NUMBER 8 TIME 140
38.0000 0.0000 33.0000 0.0000 26.6080 32.0000 26.6940 36.5000 4.5000

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EXPERIMENT NUMBER    5      SUBJECT NUMBER       8        TIME        160
    38.2000        0.0000     33.5000        0.0000      27.2000     32.0000      25.8040      36.7900      5.0000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       8        TIME        180
    37.6000       32.9000     33.4000       92.0000      19.4000     21.0000      15.8360      36.3400      2.0000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       8        TIME        200
    37.8000        0.0000     32.8500        0.0000      25.7080     32.0000      20.1080      36.3150      4.7500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       8        TIME        220
    37.9000        0.0000     33.3000        0.0000      29.2080     32.0000      26.1600      36.5200      4.7500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       8        TIME        240
    37.8000       33.2000     33.4700      108.0000      21.6080     20.0000       9.6060      36.5910      1.7500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       9        TIME          0
    37.4000       33.5000     33.5500       74.0000      20.4080     24.0000       8.6580      36.2450      1.0000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       9        TIME         20
    37.4000       31.9000     34.4000      106.0000      29.1080     27.0000      25.1030      36.5000      3.2500

EXPERIMENT NUMBER    5      SUBJECT NUMBER       9        TIME         40
    37.7000       31.1000     34.1500      116.0000      28.5080     27.0000      24.2370      36.6350      3.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       9        TIME         60
    37.6200       32.6000     33.9500       72.0000      22.1080     22.0000       9.0050      36.5050      1.0000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       9        TIME         80
    37.6000       31.6000     33.4200      114.0000      28.5080     26.0000      24.4100      36.3400      3.2500
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EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      100
    37.7000       31.6000     33.7700    120.0000       27.6000       27.1000       24.7570       36.9210       3.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      120
    37.5000       32.1000     33.8900     72.0000       20.8000       25.0000        8.8310       36.4170       1.2500

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      140
    37.4000       31.6000     33.2500    112.0000       26.3000       27.0000       25.4490       36.1550       3.6000

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      160
    37.5000       32.3000     33.7700    112.0000       25.7000       26.0000       24.4100       36.3810       3.4000

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      180
    37.3100       32.9000     33.3200     72.0000       29.4000       24.0000        8.8310       36.1060       1.6000

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      200
    37.3000       32.9000     33.4600      0.0000       26.3000       25.0000       20.7750       36.1480       3.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER        9       TIME      220
    37.3000       32.9000     33.7300      0.0000       25.7000       32.0000       20.4290       36.2290       3.5000

EXPERIMENT NUMBER    5      SUBJECT NU BER        9       TIME      240
    37.2000       31.2000     33.4300      0.0000       23.0050       23.0000        8.1390       36.0690       1.5000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       10       TIME        0
    37.6000       33.2000     32.5600     76.0000       26.4300       17.0000        6.7000       36.0880       0.0000

EXPERIMENT NUMBER    5      SUBJECT NUMBER       10       TIME       20
    37.6000       32.0000     32.2100    108.0000       34.0000       23.0000       18.5190       35.9830       0.0000
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EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	40			
37.8000	31.7000	32.2400	108.0000	32.9000	23.0000	16.9310	36.1320	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	60			
37.8000	32.6000	32.4200	80.0000	30.0000	17.0000	6.5240	36.1860	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	80			
37.8000	32.0000	31.8700	112.0000	32.9000	20.0000	16.9310	36.0210	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	100			
37.4000	32.1000	31.1200	106.0000	30.0000	24.0000	16.2260	35.7260	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	120			
37.4000	32.2000	32.9100	78.0000	30.8000	19.0000	7.2290	36.0530	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	140			
37.6000	32.7000	32.9900	114.0000	32.2000	27.0000	17.8130	36.2170	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	160			
38.0000	32.5000	33.1900	110.0000	30.0000	25.0000	17.6370	36.5570	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	180			
37.9000	33.9000	33.6600	78.0000	29.4000	17.0000	5.6420	36.6280	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	200			
38.0000	32.9000	33.0600	112.0000	30.0000	24.0000	17.8130	36.5180	0.0000
EXPERIMENT NUMBER	5	SUBJECT NUMBER	10	TIME	220			
38.1100	32.4000	33.6100	116.0000	32.9000	25.0000	17.9900	36.7330	0.0000

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EXPERIMENT NUMBER    6      SUBJECT NUMBER     10        TIME       180
   37.8000      33.3000      34.3000      70.0000      23.6000      15.[illegible]00        6.1840      36.7500        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     10        TIME       200
   37.8000      33.1000      33.5500     116.0000      29.8000      25.[illegible]00       23.6870      36.5250        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     10        TIME       220
   38.0000      32.7000      33.2500     118.0000      27.6000      26.[illegible]00       24.2180      36.5750        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     10        TIME       240
   37.8000      33.3000      33.8500      76.0000      23.6000      18.[illegible]00        8.6590      36.6150        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME         0
   37.0000      33.0000      33.5700      80.0000      23.0000      17.0[illegible]00        9.5540      35.9710        0.3000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME        20
   37.9000      33.2000      34.6900       0.0000      33.7000      21.0[illegible]00       24.7760      36.6870        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME        40
   37.7000      33.3000      34.9600       0.0000      34.1000      20.0000       24.0680      36.8780        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME        60
   37.7000      32.2000      34.2600      82.0000      25.1000      17.0000        8.1380      36.6680        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME        80
   37.8000      32.2000      34.0500     110.0000      33.7000      22.0000       24.7760      36.1250        0.0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER     11        TIME       100
   37.7000      32.6000      34.6700     11[illegible].0000      32.2000      23.0000       24.5990      36.7010        0.0000
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EXPERIMENT NUMBER    5     SUBJECT NUMBER     11      TIME      180
    37.8000     31.4000     33.4200    88.0000      32.4000   19.0000      5.4940     36.4860     0.0000

EXPERIMENT NUMBER    5     SUBJECT NUMBER     11      TIME      200
    38.0000     29.9000     33.4000   116.0000      34.2000   23.0000     20.7510     36.6200     0.0000

EXPERIMENT NUMBER    5     SUBJECT NUMBER     11      TIME      220
    38.1000     30.4000     34.1900   112.0000      36.2080   24.0000     20.2180     36.9270     0.0030

EXPERIMENT NUMBER    5     SUBJECT NUMBER     11      TIME      240
    38.0000     31.4000     33.8700    76.0000      31.0080   20.0000      6.5590     36.7610     0.0000

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME        0
    37.0000     30.7000     32.6700    84.0000      27.3080   11.0000      9.9720     35.7010     1.2500

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME       20
    37.0000     31.7000     32.8400     0.0000      35.5080   16.0000     20.4660     35.7520     2.8500

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME       40
    37.4000     31.6000     32.4100     0.0000      33.0080   15.0000     21.3770     35.9030     2.8500

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME       60
    37.2000     31.0000     32.7200     0.0000      29.3080   14.0000      7.1210     35.8560     1.6000

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME       80
    37.2000     31.7000     32.1000     0.0000      3[illegible].0050   19.0000     21.0210     35.4700     2.7000

EXPERIMENT NUMBER    6     SUBJECT NUMBER      1      TIME      100
    37.7000     31.9000     32.1500     0.0000      31.5000   20.0000     21.0210     35.4850     2.7000
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Experiment number	Subject number	Time								
6	1	120	37.5000	31.3000	32.8000	0.00 0	26.5000	18.0000	8.0170	36.0990	1.3900
6	1	140	37.5000	31.5000	32.4700	0.0000	30.0000	20.0000	20.8430	35.9910	2.6000
6	1	160	37.6000	31.5000	32.4000	[illegible]	26.5000	20.0000	20.8400	36.0400	2.6000
6	1	180	37.4000	30.4000	33.1200	0.0000	31.5000	15.0000	7.4780	36.1160	1.2500
6	1	200	[illegible]	32.5000	32.7500	0.0000	31.5000	20.0000	19.7730	36.0750	2.7000
6	1	220	[illegible]	32.7000	33.0200	0.0000	30.0000	21.0000	20.1300	36.1560	[illegible]
6	1	240	37.6020	31.1000	33.8000	84.0000	23.8000	16.0000	7.1210	36.4600	[illegible]
6	2	0	37.1200	33.7000	32.2600	68.0000	24.9000	16.0000	[illegible]	35.6400	[illegible]
6	2	20	[illegible]	32.9000	33.9900	162.0000	30.0000	19.0000	[illegible]	36.1070	[illegible]
6	2	40	[illegible]	32.9000	33.4600	96.0000	34.2000	[illegible]	20.0350	36.1400	[illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 60
37.3000 32.2000 33.2800 65.0000 28.0080 16.0000 3.2190 36.0940 1.3030

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 80
37.3000 32.6000 33.0360 107.0000 33.0000 17.0000 20.8350 36.0190 2.4800

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 100
37.4000 32.6000 33.1400 102.0000 31.0060 19.0000 17.9600 36.1220 2.3300

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 120
37.4000 32.3000 33.4400 62.0000 27.2080 14.0000 5.3620 36.2120 6.7000

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 140
37.3000 32.5000 33.5400 107.0000 30.6080 21.0000 20.8350 36.1720 8.1000

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 160
37.4000 32.3000 33.6900 107.0000 28.9000 21.0000 19.3980 36.2870 7.1000

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 180
37.5000 33.0000 34.0400 66.0000 24.0300 15.0000 6.9980 36.8520 3.5000

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 200
37.3000 32.9000 33.9400 111.0000 28.9000 25.0000 21.5540 36.2980 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 220
37.5000 32.4000 33.9600 112.0000 28.9080 24.2000 20.2950 36.4300 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 2 TIME 240
37.5000 33.1000 34.5100 80.0000 24.5000 16.0000 6.6350 36.6050 [illegible]

EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	0			
37.1000	33.6000	31.6900	64.0000	0.0000	18.0000	11.6530	35.4770	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	20			
37.2000	31.8000	32.4900	120.0000	29.6000	20.0000	22.6980	35.7870	4.9000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	40			
37.8000	31.8000	32.7600	120.0000	28.2000	20.0000	22.3400	36.2800	4.7900
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	60			
37.6000	32.3000	33.2600	64.0000	24.6000	15.0000	7.1590	36.2980	2.1000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	80			
37.4000	32.4000	32.4600	120.0000	31.0000	24.0000	22.9240	35.9180	4.5000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	100			
37.6000	31.5000	32.8100	120.0000	30.2060	23.0000	22.6900	36.1630	4.9000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	120			
37.6000	32.0000	33.6900	74.0000	24.8000	18.0000	7.8080	36.4270	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	140			
37.4000	32.5000	32.4100	108.0000	31.0000	23.0000	21.6510	35.9050	5.0300
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	160			
37.6000	31.6000	33.1400	114.0000	29.6000	20.0000	20.9920	[illegible]	4.5000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	3	TIME	180			
37.7000	32.8000	33.6900	68.0000	24.0000	14.0000	7.1590	36.4970	[illegible]

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EXPERIMENT NUMBER    6        SUBJECT NUMBER       3        TIME       200
     37.7000       32.1000      32.5400      116.0000        28.2080    21.0000        20.7780        36.1520        5.0000

EXPERIMENT NUMBER    6        SUBJECT NUMBER       3        TIME       220
     37.9000       31.2000      33.1600      114.0000        28.2080    24.0000        22.3490        36.4700        3.7500

EXPERIMENT NUMBER    6        SUBJECT NUMBER       3        TIME       240
     37.8000       32.1000      34.0600       76.0000        25.4080    17.0000         6.4610        36.6780        2.0000

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME         0
     37.4000       33.5000      33.0400       84.0000        23.8080    14.0000         8.7480        36.0920        1.7500

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME        20
     37.4000       33.5000      34.0300      120.0000        30.0080    22.0000        23.0440        36.3890        1.7500

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME        40
     38.0000       32.2000      33.4900      [illegible]     35.8080    20.0000        23.4020        36.4470        1.5000

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME        60
     38.1000       33.0000      33.7900       80.0000        23.1080    10.0000         9.2690        36.8070        0.9000

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME        80
     37.9000       32.5000      33.3600      112.0000        30.8080    24.0000        23.4020        36.5380        [illegible]

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME       100
     37.9000       32.0000      33.7900      116.0000        32.9000    23.0000        23.3810        [illegible]    [illegible]

EXPERIMENT NUMBER    6        SUBJECT NUMBER       4        TIME       120
     38.2000       32.2000      33.5900       80.0000        22.2080    16.0000         9.4630        [illegible]    [illegible]
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EXPERIMENT NUMBER   7      SUBJECT NUMBER       4        TIME        200
   38.7000     0.0000    37.0000     0.0000      28.1000     24.0000     21.0500     38.1900     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       4        TIME        220
   39.3000     0.0000    37.3000     0.0000      26.0080     25.0000     22.7790     36.7000     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       4        TIME        240
   39.3000    36.9000    37.7000   [illegible]   22.7000     11.0000      7.9400     38.8200     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME          0
   37.4000    35.3000    33.1200    92.0000      30.6080     14.0000      5.6480     36.3600     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME         20
   37.4000    36.3000    34.8400   124.0000      35.5060     20.0000     19.7760     36.7780     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME         40
   37.3000    36.7000    35.3900   135.0000      35.1080     22.0000     15.0070     36.7270     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME         60
   37.8000    36.6000    36.0000    96.0000      29.4080     13.0000      6.1770     37.2600     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME         80
   37.8000    36.5000    35.7100   135.0300      33.6050     21.7000     17.1270     37.1730     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME        100
 [illegible]  36.6000    35.7400   150.0000      33.4080     22.0000     14.0500     37.3320     [illegible]

EXPERIMENT NUMBER   7      SUBJECT NUMBER       5        TIME        120
 [illegible]  36.7000    36.4600   112.0000      32.1000     14.0000      5.8240     37.4000     [illegible]
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EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	80			
37.9000	30.7000	31.3400	112.0000	27.4080	24.0000	27.1550	36.0320	2.5000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	100			
35.0000	31.4000	31.6100	112.0000	27.4080	24.0000	25.9040	36.0830	2.9000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	120			
37.4000	32.5000	32.7600	84.0000	23.1080	17.0000	7.3550	36.0080	0.7500
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	140			
37.6000	32.1000	31.4100	0.0000	27.9080	22.0000	24.6530	35.7430	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	160			
37.9000	31.5000	31.7800	0.0000	27.9080	28.0000	24.6530	36.0640	2.1000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	180			
37.5000	32.1000	32.9800	80.0000	21.8000	18.3000	8.9700	36.1540	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	200			
37.6000	32.0000	32.0800	0.0000	27.4080	26.0000	22.8660	36.0840	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	220			
38.0000	30.0000	32.2800	0.0000	27.9080	28.0000	26.0320	36.2840	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	5	TIME	240			
0.0000	0.0000	0.0000	104.0000	19.6080	18.0000	0.0000	0.0000	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	0			
37.6000	34.9000	34.2100	64.0000	24.7080	11.0000	4.9540	[illegible]	[illegible]

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EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	20			
37.7000	33.9000	34.6400	98.0000	28.9000	25.0000	19.6210	36.7820	4.5000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	40			
37.7000	32.5000	34.3400	108.0600	28.1080	26.0000	21.2060	35.6920	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	60			
37.5000	32.0000	33.6400	66.0000	21.3080	16.0000	7.8230	35.4020	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	80			
37.5000	32.6000	33.1900	108.0000	27.3080	27.0000	21.5530	36.2070	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	100			
37.7000	32.8000	32.4400	102.0000	26.8080	27.0000	20.5100	36.1220	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	120			
37.6000	35.3000	33.2100	60.0000	23.3080	15.0000	4.4330	[illegible]	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	140			
37.4000	32.1000	32.6800	96.0000	26.8000	27.0000	20.1630	36.1200	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	160			
37.6000	32.8000	32.4100	96.0000	27.3080	25.0000	20.1630	[illegible]	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	180			
37.5000	32.5000	34.0500	62.0000	22.0080	11.0000	6.9990	[illegible]	[illegible]
EXPERIMENT NUMBER	6	SUBJECT NUMBER	6	TIME	200			
37.4000	32.1000	32.5100	96.0000	27.3080	20.0000	[illegible]	[illegible]	[illegible]

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EXPERIMENT NUMBER    6     SUBJECT NUMBER      6      TIME      220
    37,5000      32,5000     32,9800    102,0000     26,0000     26,0000     20,3370     36,1440

EXPERIMENT NUMBER    6     SUBJECT NUMBER      6      TIME      240
    37,4000      32,5000     33,5800     64,0000     22,0000     10,0000      7,6490     36,2540

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME        0
    37,6000      33,7000     34,4000     68,0000     23,7000     14,0000     11,5880     36,4400

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME       20
    37,1000      32,1000     34,3500    104,0000     29,2000     21,0000     29,1480     36,2750

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME       40
    37,6000      32,3000     34,2700    106,0000     29,2080     18,0000     27,0410     36,6010

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME       60
    37,4000      32,8000     33,6500     54,0000     21,0000     19,0000      9,4010     36,0790

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME       80
    37,4000      31,7000     33,6700    106,0000     29,2080     21,0000     27,0190     36,2810

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME      100
    37,5000      31,9000     33,7700    108,0000     27,4080     20,0000     25,9870     36,3010

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME      120
    37,6000      33,2000     33,1700     68,0000     23,0000     17,0000      9,4010     36,0710

EXPERIMENT NUMBER    6     SUBJECT NUMBER      7      TIME      140
    37,5000      32,0000     32,8200    108,0000     28,6000     17,0000     25,8120     36,0960
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EXPERIMENT NUMBER 6 SUBJECT NUMBER 7 TIME 160
37.6000 32.1000 32.7900 108.0000 27.8080 17.0000 26.8650 36.1570

EXPERIMENT NUMBER 6 SUBJECT NUMBER 7 TIME 180
37.4000 33.2000 33.1200 70.0000 22.4000 17.0000 8.4270 36.1100

EXPERIMENT NUMBER 6 SUBJECT NUMBER 7 TIME 200
37.9000 32.3000 33.2200 108.0000 28.6000 25.0000 27.9680 36.2160

EXPERIMENT NUMBER 6 SUBJECT NUMBER 7 TIME 220
37.7000 32.1000 33.6700 108.0000 27.8000 22.0000 26.1630 36.4910

EXPERIMENT NUMBER 6 SUBJECT NUMBER 7 TIME 240
37.5000 32.8000 33.3000 78.0000 21.7000 16.0000 10.3590 36.8400

EXPERIMENT NUMBER 6 SUBJECT NUMBER 8 TIME 0
37.8000 33.1000 32.6100 76.0000 19.7000 18.0000 6.9330 38.8230

EXPERIMENT NUMBER 6 SUBJECT NUMBER 8 TIME 20
37.9000 32.0000 33.4400 130.0000 28.8000 26.0000 24.2280 36.8880

EXPERIMENT NUMBER 6 SUBJECT NUMBER 8 TIME 40
37.6000 31.7000 34.0900 126.0000 28.5000 26.0000 24.7630 36.9470

EXPERIMENT NUMBER 6 SUBJECT NUMBER 8 TIME 60
37.4000 31.8000 34.1900 72.0800 21.1000 19.0000 7.4780 36.4370

EXPERIMENT NUMBER 6 SUBJECT NUMBER 8 TIME 80
37.7000 31.3000 33.6600 130.0000 30.9000 27.0000 24.7630 36.8400

```
EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        100
    37,8000     30,7000     33,8100    126,0000      26,6000     28,0000     25,6540     36,6030     1,7500

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        120
    37,4000     30,8000     33,6600     78,0000      23,8080     16,0000      7,6560     36,2700     1,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        140
    37,6800     30,7000     33,2600    130,0000      27,2000     27,0000     25,1260     36,2980     2,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        160
    37,7800     30,4800     33,3600    126,0000      26,6080     28,0000     25,1290     36,3980     2,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        180
    37,5000     31,3000     33,4900     96,0000      23,8080     16,0000      9,2600     36,3570     1,2500

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        200
    37,7000     31,0000     33,0600    126,0000      26,6080     29,0000     26,3670     36,3000     2,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        220
    37,9000     30,7000     33,5600    126,0000      25,8000     28,0000     25,8320     36,5980     1,7500

EXPERIMENT NUMBER    6      SUBJECT NUMBER       8       TIME        240
    37,3000     30,9000     33,8100     80,0000      20,2080     21,0000      8,9030     36,2530     1,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       9       TIME          0
    37,3000     33,1000     32,8500     88,0000      20,1000     23,0000      9,4700     35,9691     2,0000

EXPERIMENT NUMBER    6      SUBJECT NUMBER       9       TIME         20
    37,3000     31,9000     33,9700    114,0000      28,3000     25,0000     29,1150     36,3010     2,0000
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EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 40
0.0000 32.2000 33.9700 114.0000 29.0000 31.0000 26.3000 0.0000 3.7500

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 60
0.0000 32.3000 33.5200 86.0000 24.9000 21.0000 9.4180 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 80
0.0000 32.5000 33.3500 126.0000 27.5000 29.0000 29.7170 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 100
0.0000 32.5000 33.3500 126.0000 27.5000 29.0000 29.7170 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 120
0.0000 31.7000 32.9700 84.0000 19.1000 22.0000 8.7690 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 140
0.0000 32.2000 32.7000 0.0000 28.3000 29.0000 27.7120 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 160
0.0000 32.7000 33.0000 0.0000 27.0000 29.0000 27.5370 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 180
0.0000 31.6000 32.3000 0.0000 20.8000 20.0000 7.0150 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 200
0.0000 31.9000 33.0000 0.0000 27.0000 31.0000 25.2560 0.0000 [illegible]

EXPERIMENT NUMBER 6 SUBJECT NUMBER 9 TIME 220
0.0000 31.6000 33.1200 0.0000 33.1000 29.0000 24.0060 0.0000 [illegible]

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EXPERIMENT NUMBER 6		SUBJECT NUMBER 9		TIME	240			
0,0000	32,5000	32,8900	72,0000	22,1080	23,0000	6,8390	0,0000	1,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	0			
37,5000	33,9000	32,2300	30,0000	24,2080	17,0000	9,8970	35,9190	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	20			
37,6000	33,2000	33,3000	114,0000	29,1080	24,0000	25,4550	36,3100	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	40			
37,9000	32,3000	33,6100	116,0000	30,4080	24,0000	24,9250	36,4150	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	60			
37,8000	32,2000	33,6800	80,0000	23,6000	16,0000	8,6390	36,5640	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	80			
37,8000	32,5000	33,5100	114,0000	29,8080	23,0000	25,8090	36,5130	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	100			
38,0200	32,7000	34,1500	138,0000	30,4080	23,0000	24,2130	36,8490	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	120			
37,8000	33,4000	33,7000	60,0000	24,2080	17,0000	7,5980	36,9700	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	140			
37,8000	33,4000	34,1000	108,0000	28,4080	24,0000	32,9800	36,6900	0,0000
EXPERIMENT NUMBER 6		SUBJECT NUMBER 10		TIME	150			
37,9000	32,9000	31,1570	106,0000	28,4000	24,0000	23,1570	35,5790	0,0000

EXPERIMENT NUMBER	6	SUBJECT NUMBER	10	TIME	180			
37.8000	33.3000	34.3000	70.0000	23.6000	15.0000	6.1840	36.7500	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	10	TIME	200			
37.8000	33.1000	33.5500	116.0000	29.8000	25.0000	23.6870	36.5250	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	10	TIME	220			
38.0000	32.7000	33.2500	118.0000	27.6000	26.0000	24.2180	36.5750	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	10	TIME	240			
37.8000	33.3000	33.8500	76.0000	23.6000	18.0000	8.6590	36.6150	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	0			
37.0000	33.0000	33.5700	80.0000	23.0000	17.0000	9.5540	35.9710	0.3000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	20			
37.8000	33.2000	34.6900	0.0000	33.7000	21.0000	24.7760	36.6870	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	40			
37.7000	33.3000	34.9600	0.0000	34.1000	20.0000	24.0600	36.9780	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	60			
37.7000	32.2000	34.2600	82.0000	25.1000	17.0000	6.1380	36.6680	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	80			
37.8000	32.2000	34.0500	110.0000	33.7000	22.0000	24.7760	[illegible]	0.0000
EXPERIMENT NUMBER	6	SUBJECT NUMBER	11	TIME	100			
37.7000	32.6000	34.6700	11[illegible].0000	32.2000	23.0000	24.5990	[illegible]	[illegible]

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EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	120				
37.6000		32.1000	34.2000		74.0000	22.5000	[illegible]	4.3150	36.5800	0.0000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	140				
37.7000		32.2000	33.7700		116.0000	30.9000	21.0000	24.5990	36.9210	0.5000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	160				
37.7000		32.5000	34.6900		112.0000	32.2080	22.0000	24.5990	36.7970	0.0000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	180				
37.7000		32.2000	33.9600		76.0000	19.9080	18.0000	8.1380	36.5780	0.0000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	200				
37.8000		32.2000	33.7200		112.0000	30.1080	21.0000	24.0690	36.6760	0.0000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	220				
37.8000		32.2000	34.3600		108.0000	33.7000	22.0000	23.0060	36.7460	0.5000	
EXPERIMENT NUMBER	6		SUBJECT NUMBER	11		TIME	240				
37.8000		32.3000	34.5700		86.0000	24.6080	21.0000	0.6690	36.8510	0.5000	
EXPERIMENT NUMBER	7		SUBJECT NUMBER	1		TIME	0				
37.4000		35.7000	35.4700		62.0000	24.5080	15.0300	4.0310	36.8210	3.0000	
EXPERIMENT NUMBER	7		SUBJECT NUMBER	1		TIME	20				
37.2000		35.4000	35.5000		109.0000	30.0080	19.0000	17.4690	36.6900	0.5000	
EXPERIMENT NUMBER	7		SUBJECT NUMBER	1		TIME	40				
37.4000		36.0000	35.9500		114.0000	30.0080	21.0000	17.7030	36.7050	0.5000	

EXPERIMENT NUMBER 7		SUBJECT NUMBER 1		TIME	60			
37.7000	36.8000	35.2200	70.0000	23.9000	18.0000	6.1640	36.9360	1.792
EXPERIMENT NUMBER 7		SUBJECT NUMBER 1		TIME	80			
37.8000	36.9000	35.6500	0.0000	30.0000	20.0000	14.6220	37.1550	2.790
EXPERIMENT NUMBER 7		SUBJECT NUMBER 1		TIME	100			
[illegible]	36.9000	35.9100	0.0000	30.5000	17.0000	16.0310	37.3730	[illegible]
[illegible]MENT NUMBER 7		SUBJECT NUMBER 5		TIME	120			
[illegible]	37.0000	35.9700	84.0000	26.0000	16.0000	5.9860	37.3210	2.000
[illegible]MENT NUMBER 7		SUBJECT NUMBER 1		TIME	140			
[illegible]	37.0000	35.5100	120.0000	30.0000	20.0000	14.6220	37.1930	[illegible]
[illegible]MENT NUMBER 7		SUBJECT NUMBER 1		TIME	160			
[illegible]	37.1000	35.4000	120.0000	30.0000	19.0000	14.9740	37.2200	[illegible]
[illegible]MENT NUMBER 7		SUBJECT NUMBER 1		TIME	180			
[illegible]	37.4000	36.1700	100.0000	26.5000	15.0000	6.5170	37.4510	[illegible]
[illegible]MENT NUMBER 7		SUBJECT NUMBER 1		TIME	200			
[illegible]	37.6000	35.6900	0.0000	30.9000	15.0000	14.7980	37.4470	[illegible]
[illegible]RIMENT NUMBER 7		SUBJECT NUMBER 1		TIME	220			
38.3000	37.8000	36.0700	0.0000	29.5000	20.0000	13.2120	37.6310	[illegible]
EXPERIMENT NUMBER 7		SUBJECT NUMBER 1		TIME	240			
38.3000	37.6000	36.2200	100.0000	26.5000	16.0000	5.6360	37.4740	[illegible]

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EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        0
    37,4000      36,0000       34,5000     74,0000      23,3080     18,0000       6,1110      36,5300      1,2500

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        20
    37,2000      36,8000       35,1200    106,0000      27,6000     22,0000      18,1660      36,5760      3,0000

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        40
    37,2000      37,1000       34,8500    108,0000      26,1080     29,0000      20,1040      36,4950      3,3500

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        60
    37,2000      36,2000       35,4900     78,3000      29,2080     21,0000       5,2890      36,6070      1,0000

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        80
    37,4000      36,7000       34,7900    114,0000      26,1080     28,0000      22,0470      36,6170      3,5000

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        100
    37,5000      36,0000       34,9900    116,0000      25,5080     32,0000      22,4000      36,7470      3,7500

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        120
    37,5000      35,600^       35,0600     84,0000      26,1080     21,0000       5,6420      36,7680      1,8500

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        140
    37,8000      36,3000       34,9400    120,0000      25,5080     30,0000      20,9880      36,9420      3,3000

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        160
    37,9000      36,3000       35,4200    132,0000      24,8080     33,0000      20,9880      37,1500      3,3000

EXPERIMENT NUMBER    7       SUBJECT NUMBER      2       TIME        180
    37,6000      36,9000       35,6200     94,0800      20,8080     21,0000       7,7500      37,0060      [illegible]
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EXPERIMENT NUMBER    7       SUBJECT NUMBER       2        TIME      200
    37.5000     37.5000      35.2700     132.0000      24.8060     28.0000      20.8120      36.8310      3.6500

EXPERIMENT NUMBER    7       SUBJECT NUMBER       2        TIME      220
    37.5000     37.4000      35.2700     144.0000      24.1000     33.0000      20.2830      36.8310      4.0000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       2        TIME      240
    37.9000     37.4000      36.1500     108.0000      20.0080     24.0000       8.8170      37.3790      1.9000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME        0
    37.4000     36.0000      34.3700      82.0000      27.2080     19.0000       6.9690      36.4910      0.8000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME       20
    37.2000     35.2000      35.4500     128.0000      32.8090     27.0000      15.1980      36.6790      2.5000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME       40
    37.9000     35.9000      35.6500     136.0000      33.2060     28.0000      18.4180      36.9450      2.2500

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME       60
    37.3000     35.8000      35.6500      84.0000      23.2000     17.0000       7.1480      36.9450      1.1000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME       80
    37.7000     36.0000      35.5200     126.0000      30.0080     27.0000      19.8500      37.0440      2.6000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME      100
    37.9000     35.5000      35.4400     134.0000      31.0080     29.0000      18.9550      37.1680      3.1000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       3        TIME      120
    37.9000     37.2000      36.1700      88.0000      26.5080     15.0000       7.1480      37.3810      1.5000
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EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME       0
    37,7000     35,0000     34,7700     82,0000      0,0080    16,0000     7,2500     36,8210     1,1900

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME      20
    37,7000     34,1000     35,5000    128,0000     27,0080    28,0000    20,1870     37,0400     3,7900

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME      40
    38,5000     34,1000     35,8500    164,0000     27,0080    30,0000    20,0730     37,4950     4,0000

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME      60
    37,9000     36,7000     35,9700     92,0000     21,3080    17,0000     8,2850     37,3210     2,4000

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME      80
    37,7000     36,1000     36,2200    136,0000     29,0080    26,0000    20,8770     37,8560     4,2900

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME     100
    37,9000     37,3000     36,5000    152,0000     28,1080    27,0000    21,0510     37,4800     4,9000

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME     120
    38,4000     35,9000     36,4200    116,0000     24,8080    12,0000     9,1470     37,8060     2,0000

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME     140
    38,5000      0,0000     36,8200      0,0000     29,0080    25,0000    21,2110     37,9960     4,8500

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME     160
    38,7000      0,0000     36,9900      0,0000     27,0080    31,0000    20,8770     38,1870     4,8500

EXPERIMENT NUMBER    7      SUBJECT NUMBER        4        TIME     180
    38,2900     36,1000     37,1000    116,0000     24,8080    13,0000     7,9300     37,9400     [illegible]
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EXPERIMENT NUMBER    7      SUBJECT NUMBER       4       TIME      200
     38.7000       0.0000     37.0000       0.0000     28.1000    24.0000      21.0500      38.1900      4.50
EXPERIMENT NUMBER    7      SUBJECT NUMBER       4       TIME      220
     39.3000       0.0000     37.3000       0.0000     26.0080    28.0000      22.7750      38.7000      5.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       4       TIME      240
     39.3000      36.9000     37.7000     132.0000     22.7080    11.0000       7.9400      38.0200      2.75
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME        0
     37.8000      35.3900     33.1200      95.0000     30.8080    14.0000       5.6480      36.3960      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME       20
     37.6000      36.3000     34.8400     124.0000     35.5060    20.0000      19.7760      36.7780      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME       40
     37.3000      36.7000     35.3900     135.0000     35.1080    22.0000      15.6070      36.7270      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME       60
     37.8000      36.6000     36.0000      96.0000     29.4080    13.0000       6.1770      37.8600      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME       80
     37.8000      36.5000     35.7100     135.0000     33.6080    21.0000      17.1270      37.1730      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME       80
     38.3000      36.6000     35.7400     150.0800     33.6080    22.0000      16.9500      37.5320      0.00
EXPERIMENT NUMBER    7      SUBJECT NUMBER       5       TIME      120
     38.1000      36.7000     35.4600     112.0800     32.1080    14.0000       4.8240      37.6050      0.05
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XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       140
   38,4000      36,7000       36,2600    150,0000       33,4000    23,0000      16,7730      37,7580      0,000

XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       160
   38,6000      36,7000       36,4700    15[illegible],0000       32,9080    23,0000      16,9500      37,9610      0,000

XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       180
   38,3000      36,7000       37,0200    127,0000       29,4000    15,0000       7,0600      37,9160      0,000

XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       200
   38,9000      36,4000       36,5200    185,0000       32,1000    22,0000      16,9500      37,6060      0,000

XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       220
   38,7000      36,7000       35,6900    180,0000       32,9080    23,0000      [illegible],8900      38,0970      0,000

XPERIMENT NUMBER    7        SUBJECT NUMBER        5       TIME       240
   38,7000      37,0000       37,4900    14[illegible]       29,4080    14,0000       7,4140      38,3370      [illegible]

XPERIMENT NUMBER    7        SUBJECT NUMBER        6       TIME         0
   37,9000      37,1000       35,0200     76,0000       21,0080    23,0000       7,9430      37,0360      1,[illegible]

XPERIMENT NUMBER    7        SUBJECT NUMBER        6       TIME        20
   37,8000      37,5000       36,6300    120,0000       26,8080    27,0000      17,4000      37,4690      [illegible]

XPERIMENT NUMBER    7        SUBJECT NUMBER        6       TIME        40
   37,9000      37,5000       36,7200    120,0000       27,4040    29,0000      18,0100      37,9460      [illegible]

XPERIMENT NUMBER    7        SUBJECT NUMBER        6       TIME        60
   37,9000      37,1000       34,5700     84,0000       24,6080    21,0000       7,9430      37,9[illegible]      [illegible]
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EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 80
38.6000 37.4000 36.9500 130.0200 27.4000 30.0000 17.3033 38.1050 3.[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 100
38.8000 37.5000 37.3700 132.0000 27.4080 32.0000 17.6560 38.3710 [illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 120
38.3000 37.4000 36.7000 84.0200 23.9080 21.0000 6.5840 37.0200 1.000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 140
38.8000 37.6000 36.4500 140.0000 28.1080 30.0000 17.4800 38.0050 3.[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 160
38.7000 37.5000 36.7900 144.0000 26.8050 27.0000 16.9500 38.1270 [illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 180
36.5000 37.7000 37.0200 168.0200 25.2080 19.0200 6.7070 38.0500 1.[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 6 TIME 200
38.7000 37.6000 35.9200 180.0000 29.5080 27.0000 15.7140 37.8040 [illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 7 TIME 0
37.4000 35.1000 34.8700 60.0800 25.0000 15.0000 10.5920 36.6418 [illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 7 TIME 20
37.9000 37.0000 35.7500 126.0800 32.5080 25.0000 23.4610 37.0590 [illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 7 TIME 40
38.0000 37.5000 35.6200 124.0000 32.5080 25.0000 24.3670 37.8040 [illegible]

EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	60			
37.5000	37.3000	35.1200	98.0000	25.0000	19.0000	9.1600	36.7860	1.500
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	80			
37.6000	37.4000	35.9000	130.0000	32.5000	23.0000	24.5440	37.2300	3.950
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	100			
37.9000	37.0000	35.7700	126.0000	30.5000	23.0000	25.4070	37.5610	4.250
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	120			
37.8000	37.4300	35.4900	84.0000	27.7000	12.0000	10.4160	37.3570	5.250
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	140			
37.6000	36.2000	35.7700	135.0000	32.5000	24.0000	25.4270	37.1910	5.900
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	160			
37.9000	36.5000	36.2200	135.0000	30.5200	25.0000	24.5440	37.3900	5.750
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	180			
37.9000	37.6000	36.3000	96.0000	27.1000	14.0000	8.3280	37.[illegible]400	5.900
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	200			
36.1000	37.4000	36.5100	140.0000	29.1000	27.0000	24.0970	37.0800	4.681
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	220			
36.3000	37.5000	36.4200	140.0000	29.1000	21.0000	24.0970	37.7000	6.000
EXPERIMENT NUMBER 7		SUBJECT NUMBER 7		TIME	240			
36.4000	37.6000	36.4000	140.0000	24.2000	18.0000	11.6560	37.4600	5.750

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EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        0
   37.2000      35.7000       34.3100     76.0000      23.2080     17.0000       6.9280      36.7330      1.00
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        20
   37.8000      36.7000       35.5100    134.0000      30.3080     23.0000      22.7520      36.6930      2.25
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        40
   37.9000      36.8000       35.8100    162.0000      31.0080     31.0000      22.5750      36.9900      2.25
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        60
   37.7000      37.1000       36.3300    184.0000      26.8080     19.0000       7.2840      37.2800      1.00
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        80
   37.7900      36.9000       36.0700    148.0000      31.5080     28.0000      22.2970      37.2110      2.25
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        100
   38.1000      37.3000       35.8200    148.0000      30.3080     32.0000      20.9750      37.4160      2.25
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        120
   37.8000      37.2000       36.3400    196.0000      23.2080     18.0000       6.3510      37.3620      1.00
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        140
   38.0000      37.2000       35.8900    148.0000      30.3080     32.0000      22.7520      37.3670      2.00
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        160
   38.2000      37.6200       36.1700    182.0000      30.3080     33.0000      22.2190      37.5970      2.25
EXPERIMENT NUMBER    7       SUBJECT NUMBER       8        TIME        180
   39.1000      36.6000       36.9800    198.0000      24.6080     21.0000       9.2400      37.6445      1.95
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EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME      200
    36.3000     37.2000      36.5800    148.0000     31.7080    32.0000     21.7080     37.7840     2.3500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME      220
    35.9000     37.3000      35.3700    156.0000     29.6080    33.0000     22.0410     37.6610     2.5000

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME      240
    38.5200     37.5000      36.6100    116.0000     23.8080    19.0000      9.2400     37.7930     1.2500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME        0
    37.4000     34.7000      35.2700     66.0000     21.4080    19.0000      8.4180     36.7613     1.2500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME       20
    37.2000     35.0000      35.6000      0.7000     31.8080    23.0000     22.0990     36.7200     3.7500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME       40
    37.4000     34.8000      35.6300      0.0400     30.4000    24.0000     19.6440     36.8730     3.7500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME       60
    37.9000     35.7000      35.4610     84.0000     26.3000    20.0000      9.2950     36.9460     1.0000

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME       80
    37.6000     36.3000      35.3700      0.0800     31.3080    25.0000     22.6250     36.9310     3.7500

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME      100
    37.9000     36.7000      35.7000      0.0000     31.3080    26.0000     21.0990     37.2400     4.0000

EXPERIMENT NUMBER    7      SUBJECT NUMBER     9      TIME      120
    38.0000     34.0000      35.8300    180.0000     24.2000    20.0000      9.5200     37.3890     1.0000
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EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 140

38.4000	35.1000	36.2000	0.0000	30.4000	24.0000	22.4500	37.7400	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 160

38.6000	36.5000	36.3500	0.0000	29.9000	25.0000	23.1520	38.0680	3.7900

EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 180

38.1000	36.7000	36.0000	104.0000	21.4000	21.0000	6.8390	37.4700	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 200

38.8000	36.7000	36.2100	0.0000	28.4000	24.0000	25.2560	38.0230	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 220

39.0000	36.8000	36.7700	0.0000	28.4000	23.0000	19.9940	38.3310	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 9 TIME 240

38.3000	36.8000	35.6000	112.0000	24.9000	22.0000	8.2430	37.8140	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 10 TIME 0

37.7000	35.8000	35.0200	80.0000	27.3000	17.0000	8.0340	36.6700	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 10 TIME 20

37.2000	36.3000	35.9400	100.0000	33.0000	22.0000	15.8900	36.7020	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 10 TIME 40

37.8000	36.2000	35.3700	114.0000	30.2000	27.0000	16.0750	[illegible]	[illegible]

EXPERIMENT NUMBER 7 SUBJECT NUMBER 10 TIME 60

37.4000	36.5000	35.9500	86.0000	31.4000	28.0000	[illegible]	[illegible]	[illegible]

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EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME        80
     37.5000       36.0000       35.3100      114.0000      33.0000      21.0000      1[illegible].4330      36.8430       2.3900

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       100
     37.6000       36.0000       35.3600      116.0000      32.3080      25.0000      17.3260      36.9260       2.0070

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       120
     37.5000       36.4000       35.9600       88.0000      23.6000      22.0000       6.6040      37.0380       1.0090

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       140
     37.7000       36.9000       35.2500      124.0000      31.4000      26.0000      16.4330      36.9650       2.8900

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       160
     38.0000       37.1000       35.7600      126.0000      33.0000      26.0000      17.6420      37.3200       2.4900

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       180
     37.8000       37.2000       36.2600      106.0000      30.2080      2[illegible].0000       8.0340      37.3300       1.9920

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       200
     38.1000       37.3000       35.4900      144.0000      32.3000      30.0000      18.8200      37.3170       2.8900

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       220
     38.3000       37.3000       36.0700      144.0000      33.0000      25.0000      17.1470      37.4310       2.8000

EXPERIMENT NUMBER    7        SUBJECT NUMBER       10         TIME       240
     36.0000       37.4000       36.4600      108.0000      33.7000      20.0000       7.1400      37.3500       1.8000

EXPERIMENT NUMBER    7        SUBJECT NUMBER       11         TIME         0
     37.7000       35.4000       34.6400       78.0000      25.6000       0.[illegible]000       6.4500      36.9400       2.0000
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EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 20
37.6000 36.9000 35.9600 116.0000 32.8000 29.0000 20.6500 37.1600 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 40
38.0000 37.4000 36.0200 122.0000 34.3000 25.0000 20.3000 37.4060 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 60
38.0000 37.3000 36.2600 84.0000 27.7000 24.0000 6.9750 37.4700 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 80
38.2000 37.3000 35.6600 126.0000 33.2000 27.0000 19.2550 37.4200 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 100
38.4000 37.3000 35.9000 132.0000 31.9000 33.0000 20.0250 37.6800 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 120
39.3000 37.0000 37.4900 92.0000 27.1000 22.0000 7.5250 50.0570 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 140
38.6000 37.2000 35.7800 128.0000 31.2000 27.0000 21.7000 37.7040 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 160
38.6000 36.9000 34.0400 140.0000 32.8000 28.0000 21.7000 37.8330 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 180
38.4000 37.4000 36.5100 94.0000 25.8000 23.0000 6.3000 37.8330 0.0000

EXPERIMENT NUMBER 7 SUBJECT NUMBER 11 TIME 200
38.4000 37.3000 36.2400 156.0000 31.2000 29.0000 28.0500 37.6900 0.0000

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EXPERIMENT NUMBER    7       SUBJECT NUMBER       11        TIME        220
    38.6000      36.6000      36.5900     176.0000       30.4000      28.0000      24.8750      37.997[illegible]      0.0000

EXPERIMENT NUMBER    7       SUBJECT NUMBER       11        TIME        240
    38.6000      37.3000      37.0800     106.0000       25.8060      25.0000       8.0300      30.1440      0.0000
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4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

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Biological investigation and evaluation of protective equipment	US Army Edgewood Arsenal Chemical Research and Development Laboratories, Edgewood Arsenal, Maryland 21010

13. ABSTRACT

The purpose of this study is to determine the factors that may account for discomfort or impairment in men wearing the protective mask while working in heat. The M6 hood was attached to the M17 mask and worn with the protective clothing assembly by men walking indoors on a treadmill at 3 mph, zero grade at 21° and 40°C with 10 mmHg vapor pressure. The impairment in the performance of men wearing the protective assembly was assessed by studying the physiological strain, both respiratory and thermal, of the subjects. The major physiological cause of the discomfort was found to be thermal in nature. In the experimental series, where the subjects wore mask and hood in combination with shorts only to permit a large surface area for sweating, the rapid rise of body temperatures still occurred.

14. KEYWORDS

Walk responses	M6 hood
Treadmill test	M17 mask
Hyperventilation	Heart rate
Body temperature	Measurements
Oxygen consumption	Body weight
Protective clothing	Heat storage
Respiratory variables	Heat tolerance
Physiological responses	

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